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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

A Reuben H. Donnelley Publication

DECEMBER
1959

Independent Hose Company of Frederick, Md., marked the 1958 Christmas season with its beautifully decorated station

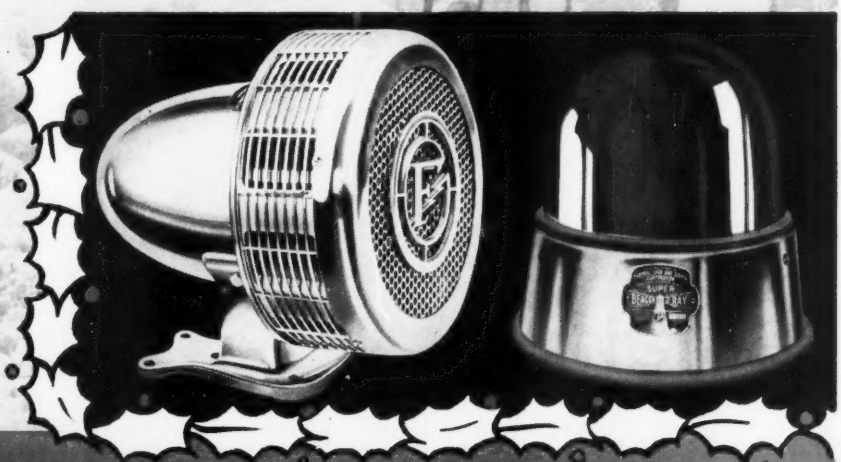
—photo by Captain Lester W. Baker

MAXIM MOTOR COMPANY, MIDDLEBORO, MASSACHUSETTS

Happier HOLIDAYS–

for ***you*** and for others,
if ***your*** fire apparatus is protected with a
FEDERAL Beacon Ray Light and
a Coaster Siren.

Heavier holiday traffic, bad weather and short days,
combine with haste, congestion and alcohol
to ***increase traffic problems.***
Christmas trees, overheated furnaces
and overloaded wiring multiply fire calls.
This is the time of year, most of all,
when you ***need the best of warning signals***
to get you through traffic ***safely.***
Equip your apparatus ***now*** with Beacon Ray lights
and Class Q Coaster sirens and be sure
they are specified on any ***new equipment.***
Don't wait for 1960—it may be too late.
Write for Catalog 300 today!



CHICAGO DAILY NEWS PHOTO

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SIGNAL Corporation

13602 S. Western Ave., Blue Island, Ill.

FIRE ENGINEERING

VOL. 112 DECEMBER, 1959 NO. 12

IN THIS ISSUE

Saving Face or Safeguarding Children—An Editorial 1121
By Donald M. O'Brien

Fighting Fire on the DEW Line 1122
By Sidney Wohlfeld

Removing Waste Water 1124
By Donald M. O'Brien

Aerial Armada Fights Giant Angeles Brush Fire 1126
By Cliff Dektar

Baltimore Trains for Radiological Hazards 1129

Junior Colleges Offer "Credit" Courses to San Diego County Firemen 1131
By Roi B. Woolley

"An Ounce of Prevention" Pays Off in Apparatus Maintenance 1133
By Chief Harold C. Fisk

Fire Protection for the Winter Olympics 1134
By Cliff Dektar

Salvage Pays Its Way 1135
By William H. Gardner

DEPARTMENTS

Manufacturers' News 1136
False Alarms 1138
Among the Buffs 1140
What's Burning 1142
The Round Table 1146
Coming Events 1151
Questions and Answers 1160
Persons in the News 1166

Season's Greetings

The Staff of

FIRE ENGINEERING

wishes one and all - - -

A Very Merry Christmas and

A Happy and Prosperous New Year!

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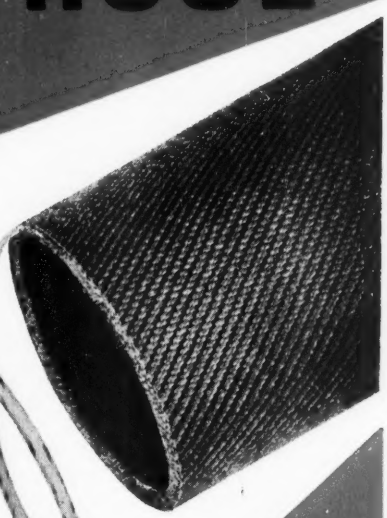
Fabric FIRE HOSE

PRESENTS



FABRIC UNISPUN FIRE HOSE

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AND

PRES-R-LOCK COUPLINGS

WRITE US or CONTACT YOUR Authorized FABRIC Representative

FABRIC FIRE HOSE COMPANY

EXCLUSIVE MANUFACTURER OF FIRE HOSE SINCE 1869

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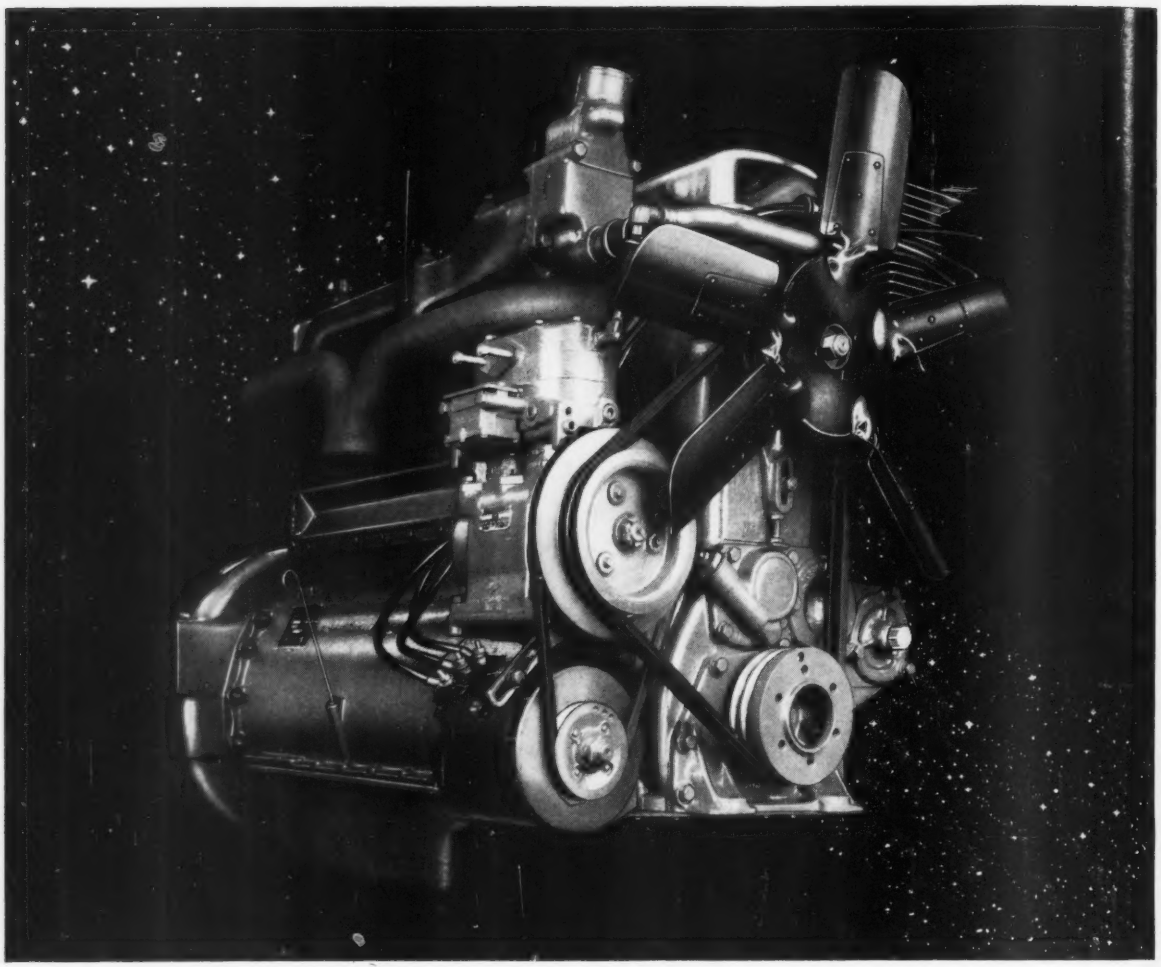
IN CANADA *Pierre Thibault* CANADA, LTD., LTEE., PIERREVILLE, QUEBEC



You, too, can own the finest engine made for fire apparatus

Hall-Scott engines in full-scale production at Hercules Motors' Canton plant

There's a pride of ownership associated with Hall-Scott engines that no other power source can inspire. Fire chiefs operating Hall-Scott equipped vehicles know the dependable service and unequalled performance that come from owning the finest . . . and many more will know it soon. For Hercules Motors Corporation has taken over the Hall-Scott engine line: is making these precision-built power plants available to more users across the nation.

Hercules is now producing the famous Hall-Scott Fire Chief (240 h.p.) and Super Fire Chief (324 h.p.) models in quantity. You can own a Hall-Scott engine in the next piece of equipment you order: all major apparatus manufacturers will supply this quality power-plant to your specifications. And service is at your doorstep through Hercules' strategically located distributor network. Write today for descriptive bulletins on Hall-Scott engines for fire service.

HERCULES

HERCULES MOTORS CORPORATION
Canton, Ohio

HERCULES ENGINES . . . *Sold and Serviced the World Over*

B.F.Goodrich

This hose fights fires long after ordinary hose gives up

NOT one single length of this hose has ever failed at the coupling. It's lighter, more flexible—yet is as strong as heavier, bulkier hose. It's protected against mildew. These quality features of B.F.Goodrich hose may add a few cents per foot to its cost, but they're worth so much more.

For example, Plylock end protection, an extra layer of hardwoven cords extending 12″ from the coupling, adds 100% more strength to the coupling area. It prevents the tube from splitting or cracking during the strain of coupling or uncoupling hose to hydrant, greatly increases hose life.

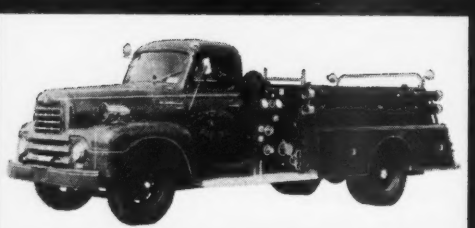
The hose gets its lightness and flexibility from "filler" cords of Dacron fiber which go around the hose and carry the load under pressure. These cords are thinner, and three times stronger than cords used in ordinary hose. Because of this reinforcement, the hose not only lasts longer, but it's easier to handle, and coils tighter so that hundreds of extra feet can be racked on a truck.

Superseal is a special treatment that practically eliminates mildew as a hose killer. This exclusive B.F.Goodrich treatment for hose gives 10 times more resistance to mildew and rotting than ordinary treatment. It also protects against moisture absorption and freezing, and increases the hose's resistance to fire.

If you're looking for a good buy in hose, get the B.F.Goodrich fire hose with all these quality features. It may cost more to begin with, but will actually cost you less in the long run. Your B.F.Goodrich distributor can tell you more about it. *B.F.Goodrich Industrial Products Company, Dept. M-757, Akron 18, Ohio.*

B.F.Goodrich *fire hose*

BOARDMAN BUILDS BETTER PUMPERS for Less!

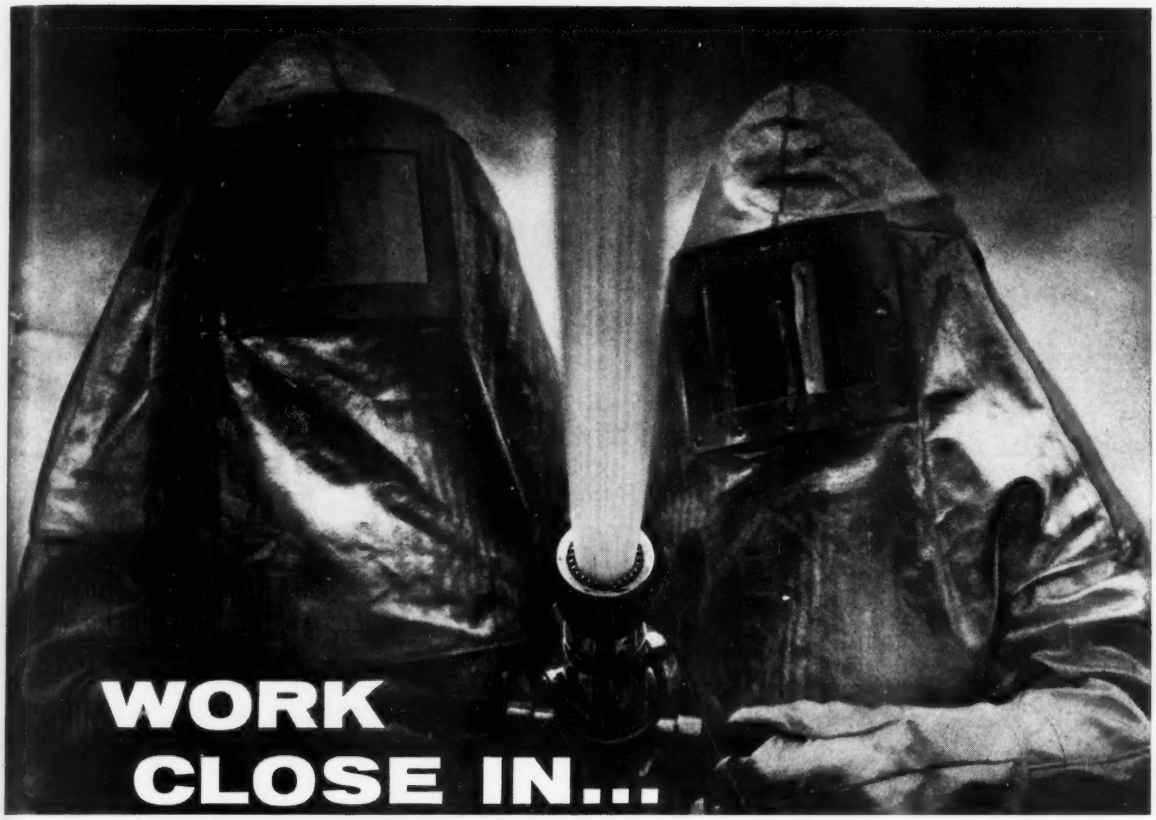


THE BEST PUMPER your community can possibly have is the pumper that fits its needs *exactly*. And Boardman pumpers are built to do just that, with the features and equipment you need. They are mounted on the standard chassis of your choice, for quick and inexpensive local service and maintenance! Boardman pumpers are built to your specifications — but for less than a "custom-built" price. WRITE AT ONCE for your copy of the new brochure, "BOARDMAN FIRE FIGHTERS."

BOARDMAN

THE BOARDMAN CO.

OKLAHOMA CITY



SAFELY!

Equipment made of New Fabric Reflects 90% of Radiant Heat

How fast could you knock out a fire if you could move in really close . . . and stay there? Look at these men—they're in close and holding their ground. They're protected by equipment made of 3M Aluminized Fabric that bounces off intense heat.

An entirely new concept in heat protection is offered by flexible, long-wearing 3M Aluminized Fabric that reflects 90% of radiant heat. And it's 50% lighter than ordinary materials that only insulate against radiant heat.

Complete 3M Aluminized Fabric suits offer protection against 2000° F exposures to permit fire fighting and rescue operations never before possible under such conditions. Crash crews are able to penetrate the intense heat of burning aircraft for rescue work—*proof* of 3M Aluminized Fabric's reflective-protective qualities!

For safety's sake, see—test this amazing new material that is specified by military departments, used by modern city and industrial fire departments and rescue squads.

3M Aluminized Fabric is available in hoods, gloves, coats, full suits and salvage covers. Send coupon for free booklet "When It Takes More Than Courage".

SCOTCH·SHIELD* BRAND
ALUMINIZED FABRIC
Formerly 3M Brand Aluminized Fabric

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St. Paul 6, Minnesota
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

Minnesota Mining and Manufacturing Company, Dept. RBX-129, St. Paul 6, Minnesota

Please send free booklet about "Scotch • shield" Aluminized Fabric, "When It Takes More Than Courage."

Name_____ Title_____

Fire Dept. or Firm_____

Address_____

City_____ Zone____ State_____

INTERNATIONAL Model VCO-196 shown here offers safe forward control vision. Tilt action cab provides for fast, complete engine accessibility. Choice of 401, 461 and 549 cu. in. V-8 engines and five axles. Select-O-Matic (semi-automatic) transmission reduces shifting time, allows maximum driver attention. Other INTERNATIONAL Trucks to 33,000 lbs. GVW.

NOW AVAILABLE IN INTERNATIONAL V-8 CHASSIS

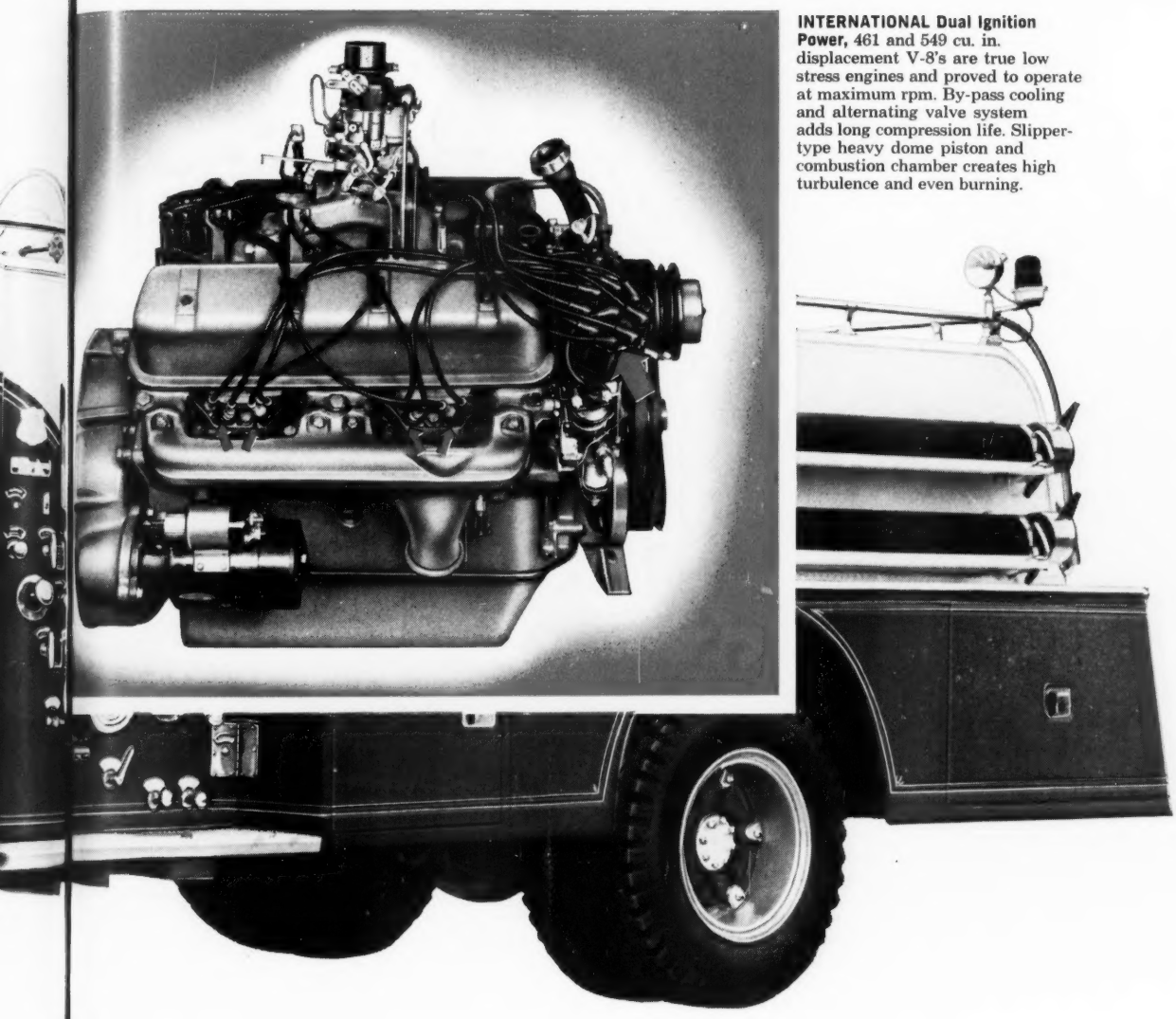
NEW, DEPENDABLE

***Volume produced chassis* for economy and fast, convenient servicing.**

***Fire specialist know-how* for precise matching of chassis and apparatus.**

Long the world's largest manufacturer of heavy-duty trucks, INTERNATIONAL now offers the first mass produced fire truck chassis with V-8 dual ignition.

What can this mean to you and your community? Doubly sure, instantaneous action with full, honest rated V-8 power up to 257 horse-power and pumping capacities up to 1,250 GPM. Proved, dependable, heavy-duty chassis quality, at volume-produced price. Complete fast servicing provided by thousands of INTERNATIONAL Truck service locations . . . there's one either in or close to your community.



INTERNATIONAL Dual Ignition Power, 461 and 549 cu. in. displacement V-8's are true low stress engines and proved to operate at maximum rpm. By-pass cooling and alternating valve system adds long compression life. Slipper-type heavy dome piston and combustion chamber creates high turbulence and even burning.

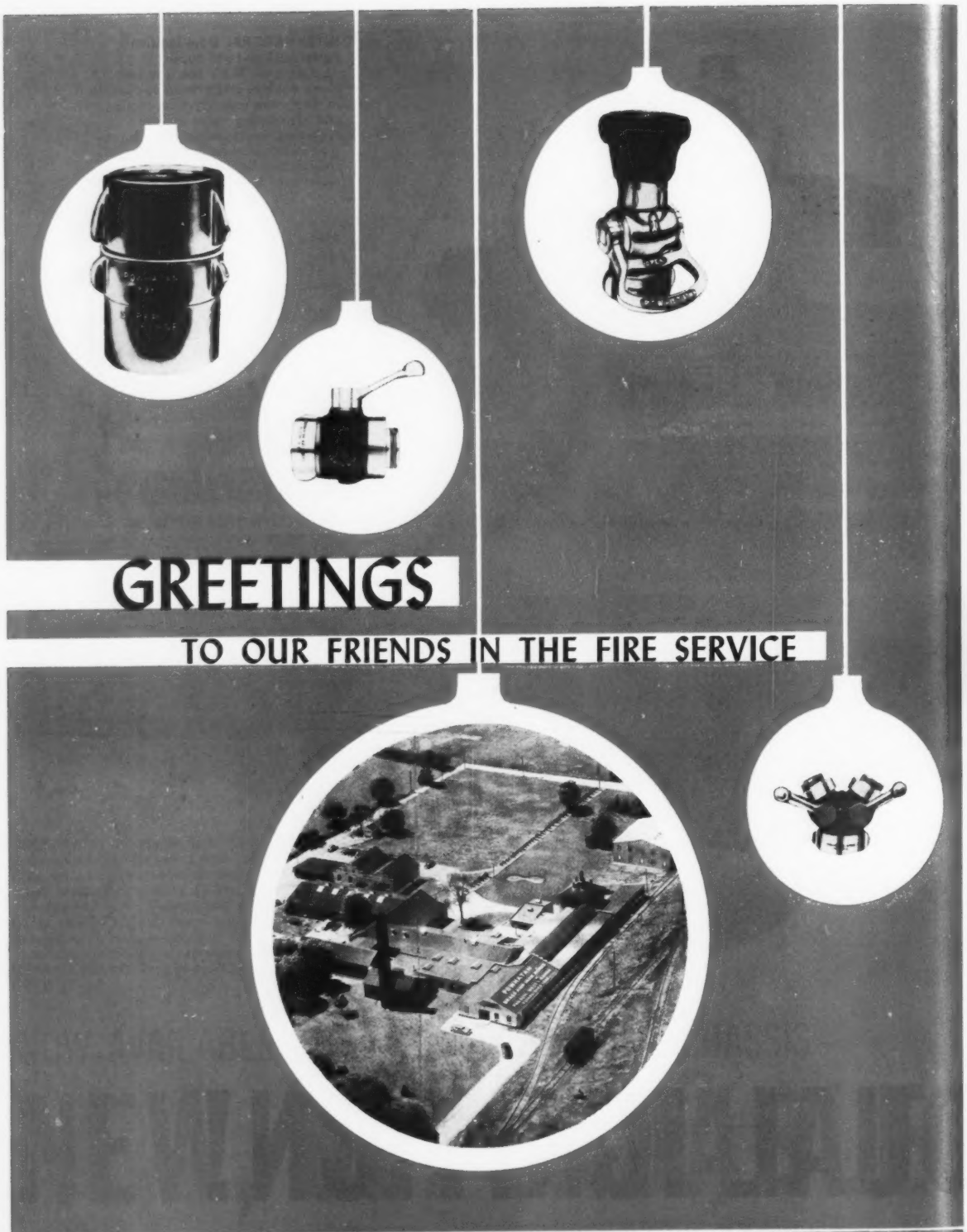
DUAL IGNITION!

See your INTERNATIONAL Dealer or Branch for complete details today. They offer the trucks, components and know-how to help you custom-fit a fire truck chassis to your exact need!

INTERNATIONAL® TRUCKS

WORLD'S MOST COMPLETE LINE

INTERNATIONAL HARVESTER COMPANY, CHICAGO • Motor Trucks • Crawler Tractors • Construction Equipment • McCormick® Farm Equipment and Farmall® Tractors



GREETINGS

TO OUR FRIENDS IN THE FIRE SERVICE

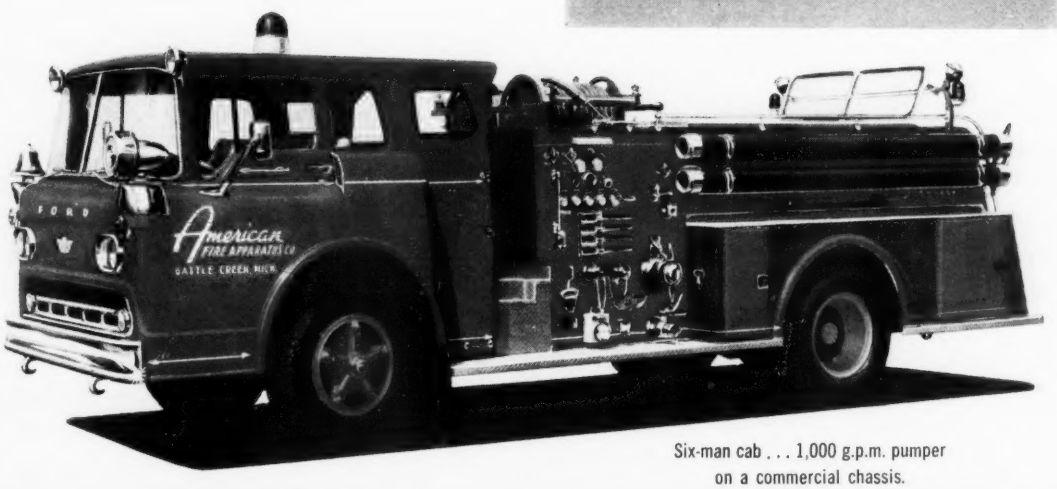
POWHATAN BRASS & IRON WORKS

RANSON, WEST VIRGINIA

OUR SIXTY-SEVENTH YEAR

In The Same Location Since 1892

NEW... from AMERICAN FIRE APPARATUS...



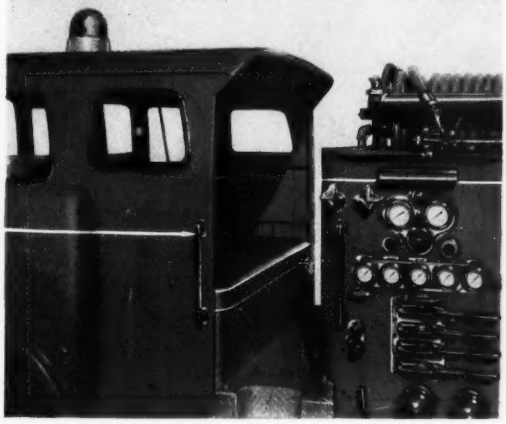
Six-man cab . . . 1,000 g.p.m. pumper on a commercial chassis.

SIX-MAN CAB on a commercial chassis

Now, for the first time, you can get a spacious six-man cab on a commercial chassis. You get advantages never before offered, even in custom-built trucks. Here is truly fine engineering and craftsmanship, so typical of *American* Fire Apparatus. It is another example of how *American* helps make your fire-fighting job easier and increases your efficiency.

- Firemen can get out of either side of the broad rear seat — straight-through unobstructed passage from one side of the truck to the other.
- Sliding window permits easy communication between front and rear seats.
- Front and rear portions of cab are constructed as a single rugged unit.
- Rear section of cab has its own dome light.
- Side windows of safety plate glass are mounted in heavy rubber seals.
- Entire cab tilts forward, providing ready access to engine.

Wide comfortable seat, ample headroom, straight-through passage with no obstructions.



For complete details about this new six-man cab, see your nearest **American** representative.

AMERICAN FIRE APPARATUS CO.

American

FIRE APPARATUS CO. "Always Pioneering with Better Engineering"

Main Office: Main Street Rd., Battle Creek, Mich. Plants at: BATTLE CREEK, MICH., MARSHALLTOWN, IA., STRATFORD, ONT.

Now...no need

Shown here is a fire company washing down hose of "Dacron" after a fire and loading it on the truck wet—ready for the next action.

FIRE HOSE MADE WITH "DACRON" IS EASIER TO HANDLE...

to dry your hose!

New municipal fire hose with jacket made entirely of DACRON®
POLYESTER FIBER

is not damaged by mildew

It's the greatest labor saver since firemen stopped pumping by hand — fire hose that can be packed wet without danger of rot or mildew! The reason—new jackets made *entirely* of Du Pont "Dacron"* polyester fiber.

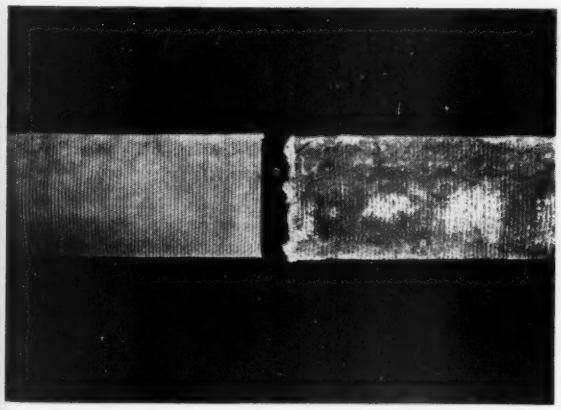
Tests show new hose of "Dacron" is not weakened or damaged by mildew . . . eliminates the need to dry or change hose after each run . . . lets you stand ready to answer calls without delay.

At the scene of a fire, where every second counts, rugged hose of "Dacron" saves you precious time. It absorbs little water . . . remains easy to handle . . . gets into action fast. And hose of "Dacron" stubbornly resists damage from abrasion or chemicals to give years of dependable service.

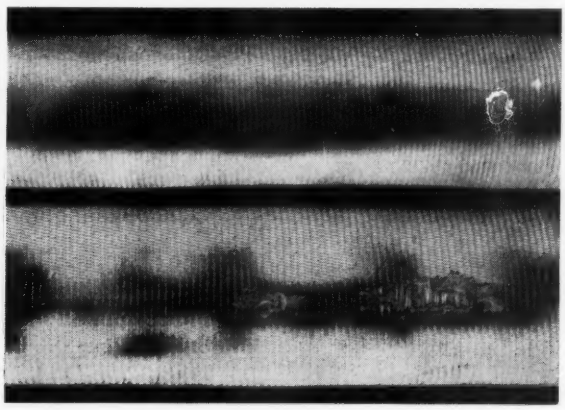
Next time you buy hose, be sure you buy the best—hose with jackets of all "Dacron". It's produced by leading hose manufacturers. For their names, write: E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Department, Wilmington 98, Delaware.

**"Dacron" is Du Pont's registered trademark for its polyester fiber.*

SEE FOR YOURSELF HOW "DACRON" RESISTS DEGRADATION



BURIED 27 DAYS in moist, warm soil, hose with a jacket made of "Dacron" (left) was unaffected. In hose jacketed with "Dacron"/cotton (right), the "Dacron" filler cords remained intact and unaffected by mold or bacteria, while the cotton was severely damaged.



DRAGGED 2.5 MILES over asphalt road, hose with jacket made entirely of "Dacron" (top) stubbornly resisted damage from wear and abrasion. Hose with jacket made of cotton (bottom) was severely worn and abraded and was rendered unserviceable.

DU PONT
REG. U. S. PAT. OFF.

Enjoy "The Du Pont Show With June Allyson", every Monday night on CBS-TV

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

GIVES IMPROVED PERFORMANCE...PACKS MORE COMPACTLY

MIDWESTERN

Safety Clothing for Firemen

The Original STRIPED SAFETY COAT

The striped safety coat for firemen is an Original Midwestern development — first in the field — a leader ever since its introduction 19 years ago.

The BRILLIANT YELLOW stripes are actually rubberized into the black rubber . . . an exclusive feature that defies comparison with substitute or imitation models where the stripes are glued, sewed or painted on the material.

When working under hazardous conditions in smoke, fog, dust or darkness, firemen deserve the superior quality, design, comfort and safety features offered by the Original Midwestern Safety Coat.

Many Fire Chiefs who insist on the best of protection for the men of their department specify MIDWESTERN SAFETY garments to the last man because every outstanding Midwestern feature is original. All fabrics are extremely soft and flexible and have the qualities to stay that way at varying temperatures. You can always distinguish a MIDWESTERN SAFETY garment by the soft feeling of the material in both rubber and fabric type garments.

We have always designed and constructed our garments with the one thought . . . that every fireman deserves complete protection in his hazardous work of protecting life and property against the ravages of fire.

COMBINATION BUNKER SUITS

The many weights of both rubber coated and cloth type materials offered in our MIDWESTERN Quick-Hitch suit makes this combination ideal for all sections of the domestic market and export. Also, both coat and bunker pants may be purchased with or without detachable wool linings.

MIDWESTERN SAFETY MANUFACTURING CO.
Mackinaw, Illinois

☐ Have Midwestern representative call with complete information and prices.
☐ Send Free Catalog and fabric samples.

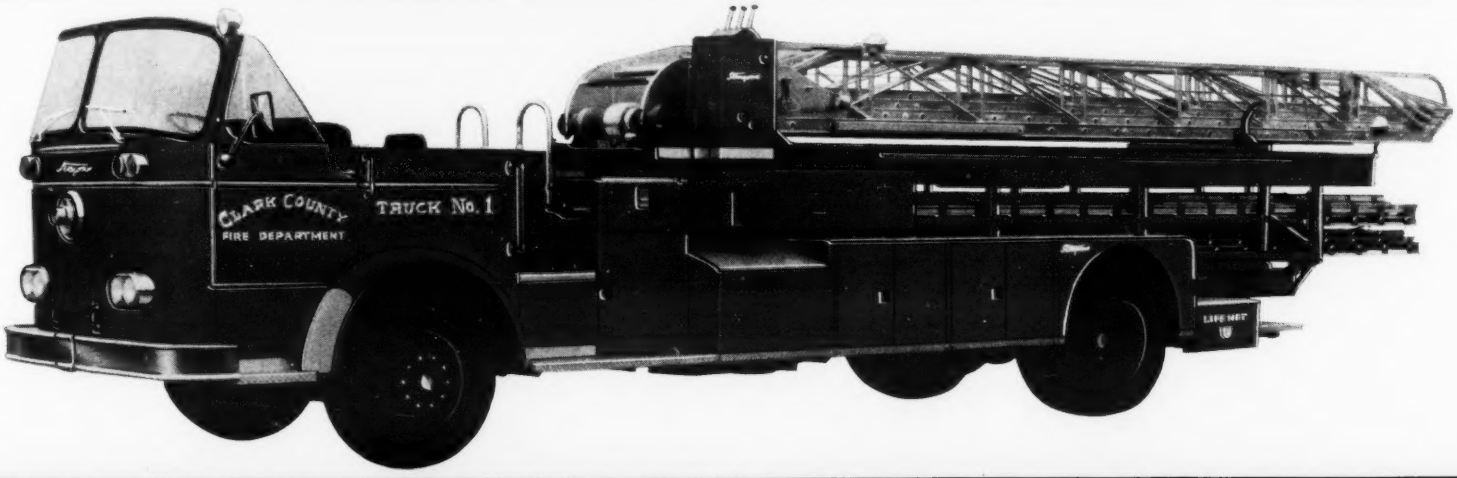
Name_____

Address_____

City_____ State_____

NONE GENUINE WITHOUT THIS TRADE

MIDWESTERN SAFETY MFG. CO., Mackinaw, Ill.
Located in the heart of the Greater Peoria Manufacturing Area
Manufacturers of the Famous MACKINAW Safety Coat

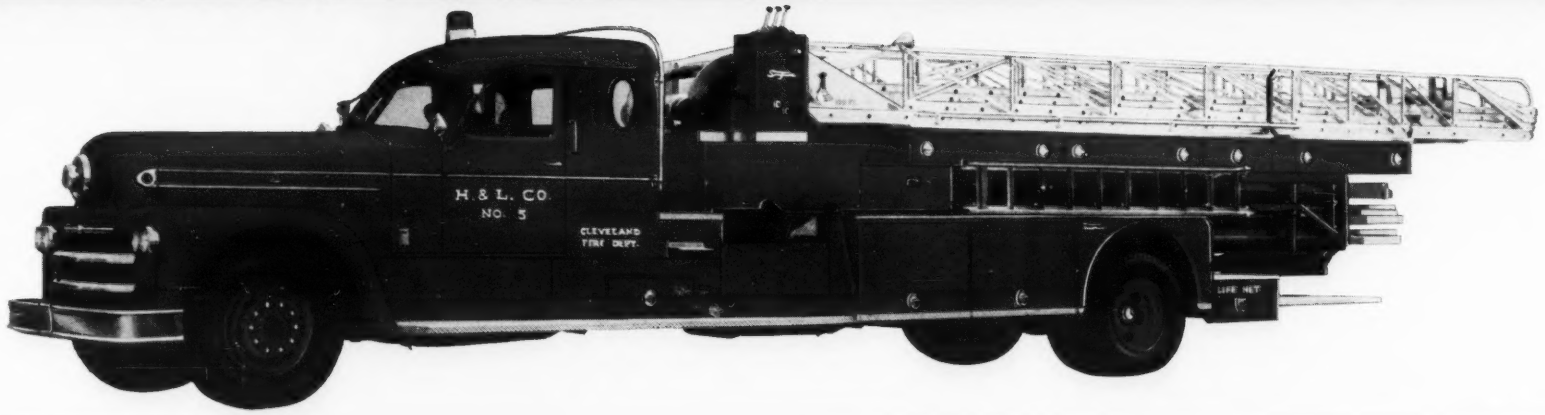


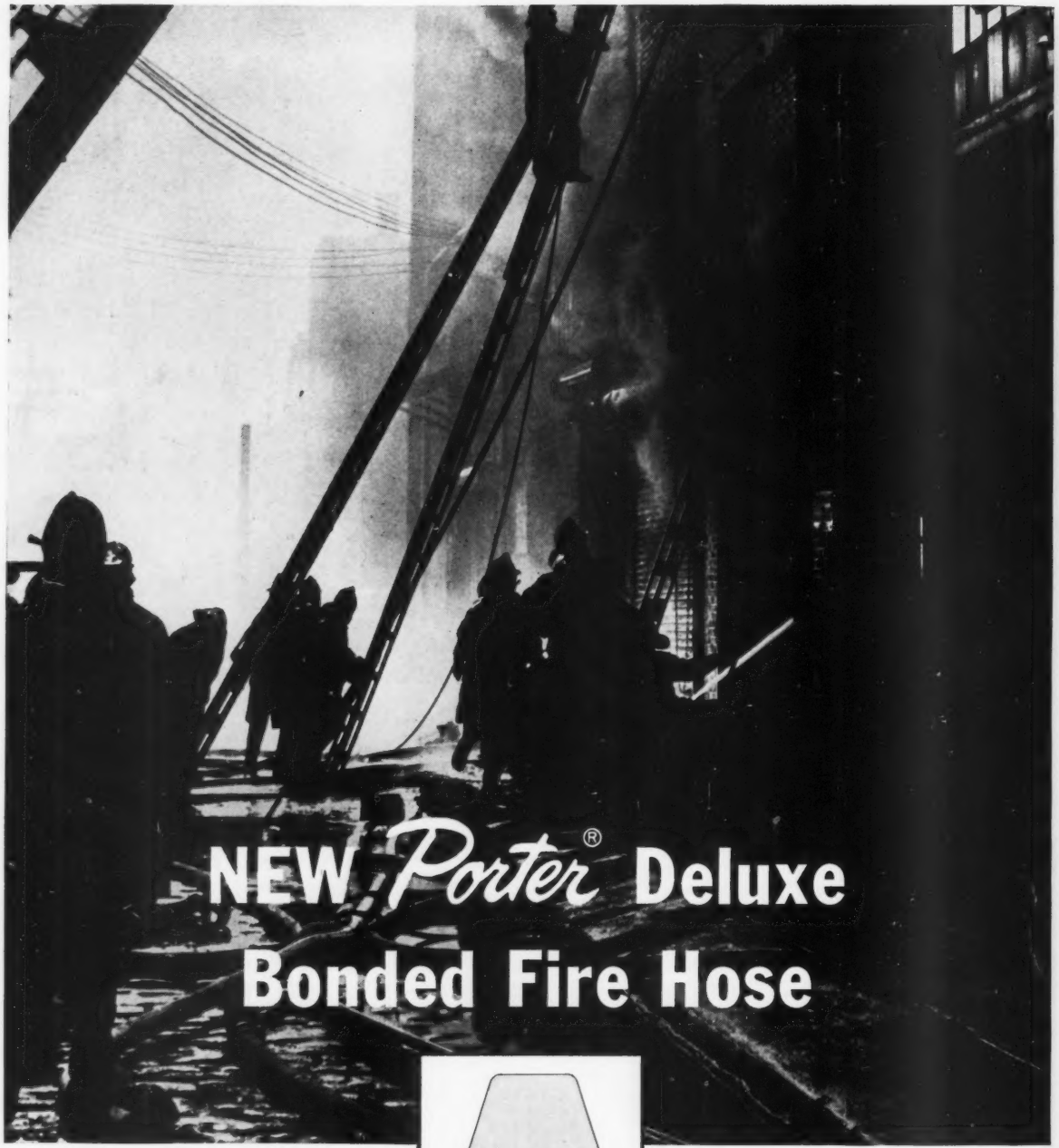
Seagrave

AN AERIAL LADDER TO FIT EVERY NEED AND EVERY BUDGET

• on Cab-Forward • on Conventional • on Commercial Chassis

THE SEAGRAVE CORPORATION
COLUMBUS 7, OHIO
KING-SEAGRAVE, LTD., WOODSTOCK, ONT.





NEW Porter® Deluxe Bonded Fire Hose

. . . eliminates need for drying.

You don't have to stock spare hose for use while another load is drying. The new Porter Deluxe Bonded Fire Hose doesn't need drying-out.

It's made with a rubber bond between the two jackets of DuPont "Dacron" polyester fiber, which laughs at mildew. Pack it away soaking wet without the fear of deterioration that is common to cotton-jacket hose.

A rubber-bonded double jacket of "Dacron" all around is the secret behind the new mildew-proof Porter Deluxe Bonded Fire Hose.

And drag new Porter Deluxe Bonded Hose to test its scuff-resistance! At least five times more wear can be put on this remarkable hose before the two bonded jackets begin to show it.

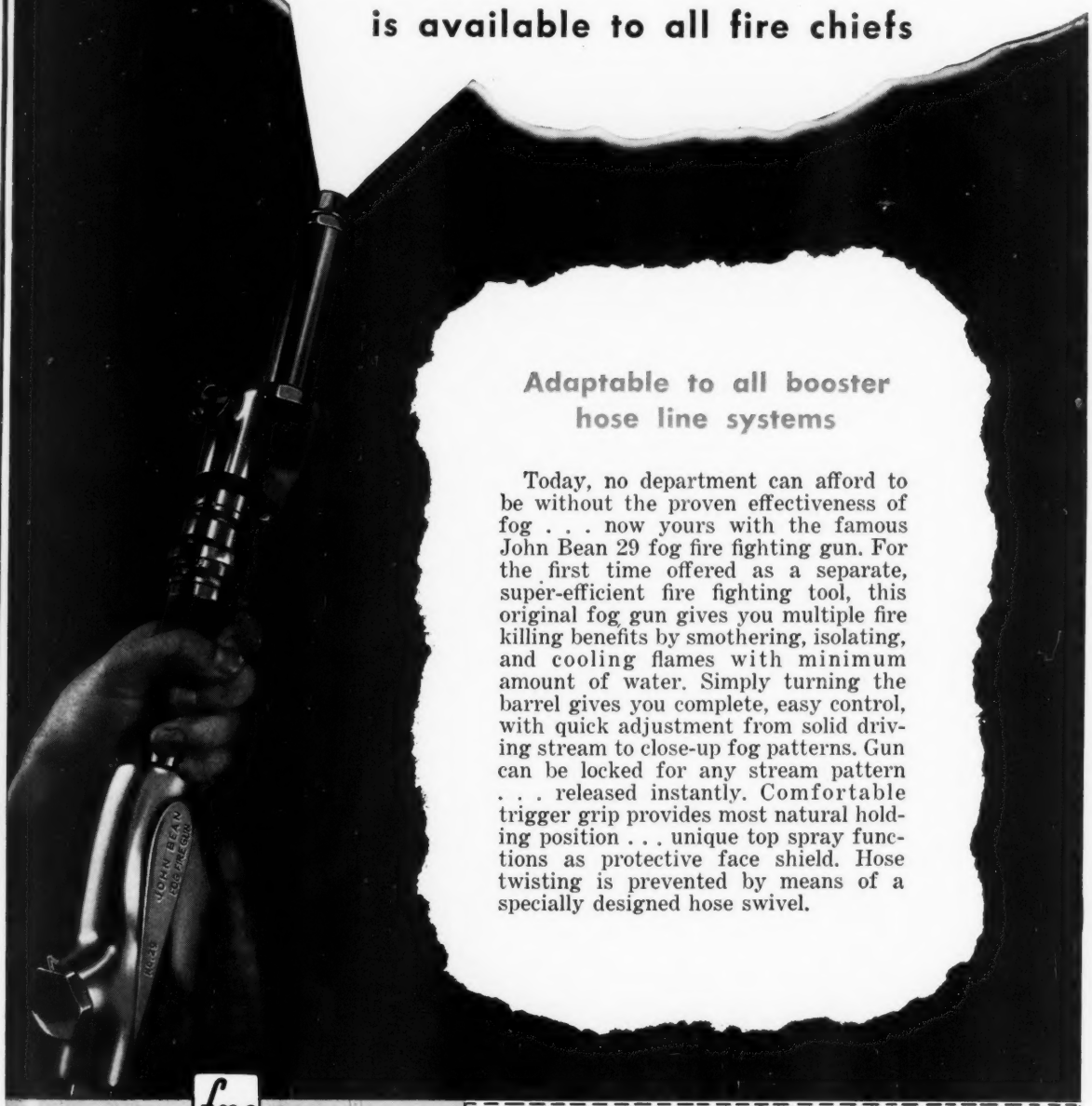
Ask your Thermoid distributor to show you a length of the new Porter Fire Hose with the all-"Dacron" bonded jacket. Or write *Thermoid Division, H. K. Porter Company, Inc., Tacony and Comly Sts., Philadelphia 24, Pa.*

THERMOID DIVISION **PORTER** **H.K. PORTER COMPANY, INC.**

PORTER SERVES INDUSTRY: with Rubber and Friction Products—THERMOID DIVISION; Electrical Equipment—DELTA-STAR ELECTRIC DIVISION, NATIONAL ELECTRIC DIVISION; Specialty Alloys—RIVERSIDE-ALLOY METAL DIVISION; Refractories—REFRACTORIES DIVISION; Electric Furnace Steel—CONNORS STEEL DIVISION, VULCAN-KIDD STEEL DIVISION; Fabricated Products—DISSTON DIVISION, FORGE AND FITTINGS DIVISION, LESCHEN WIRE ROPE DIVISION, MOULDINGS DIVISION, H. K. PORTER COMPANY de MEXICO, S. A.; and in Canada, Refractories, "Disston" Tools, "Federal" Wires and Cables, "Nepcoduct" Systems—H. K. PORTER COMPANY (CANADA) LTD

NOW the original John BEAN 29 FOG FIRE FIGHTING GUN

is available to all fire chiefs



Adaptable to all booster hose line systems

Today, no department can afford to be without the proven effectiveness of fog . . . now yours with the famous John Bean 29 fog fire fighting gun. For the first time offered as a separate, super-efficient fire fighting tool, this original fog gun gives you multiple fire killing benefits by smothering, isolating, and cooling flames with minimum amount of water. Simply turning the barrel gives you complete, easy control, with quick adjustment from solid driving stream to close-up fog patterns. Gun can be locked for any stream pattern . . . released instantly. Comfortable trigger grip provides most natural holding position . . . unique top spray functions as protective face shield. Hose twisting is prevented by means of a specially designed hose swivel.

John fmc® **BEAN**

Lansing 4, Michigan San Jose 1, Calif.

ORIGINAL FOG FIRE FIGHTING GUN

Food Machinery and Chemical Corporation

SEND COUPON for details TODAY

I am interested in the original John BEAN 29 Fog Fire Fighting Gun.

Please send complete information to me.

Name_____

Title_____

Address_____

City_____ State_____

Even your dome light draws more current than MOTRAC 2-way radio!

Motorola ends costly power drain problems and idling expense with the first fully transistorized receiver and power supply

What makes Motorola MOTRAC radio the most economical and reliable 2-way radio unit in the annals of mobile communications? Not just one or two new features, but a score of revolutionary design advancements that bring you the very finest set ever engineered.

1. On standby—the MOTRAC receiver draws only a trickle of current—actually 80% less than conventional units—with an occasional increase to maintain crystals at proper temperature for precise on-frequency operation (even your dome light draws more current than MOTRAC radio). Yet, this radio is always poised for instant reception, thanks to its fully transistorized receiver. Result: no life-shortening battery drain . . . no more costly, unnecessary engine idling.

2. MOTRAC radio eliminates the most common maintenance problems: vibrators in the power supply and tubes in the receiver. All are replaced by stabilized long-life transistors.

3. Up to 40°F cooler operation means less aging and strain on components. Reason: no more receiver tube filaments; a more efficient power supply; a battery saver switch to cut off transmitter filaments; and two separate heat sinks—one for power supply, another for transmitter output tubes.

4. The MOTRAC receiver operates directly from the 12-volt battery; its low voltage operation results in less electrical strain on components, assures long life.

5. Traditional Motorola engineering and production excellence are evident throughout MOTRAC radio. Transistors undergo three separate checks, including a week of stabilization at 185°F. Only industrial-type tubes, especially suitable for the rigors of mobile operation, are used in the transmitter.

6. Patient production testing continues under stringent quality control procedures. First, each module is tested. Then each chassis is independently checked. Next, each radio is tested as a composite whole. Finally, the entire radio and associated accessories are checked out as a complete operating system.

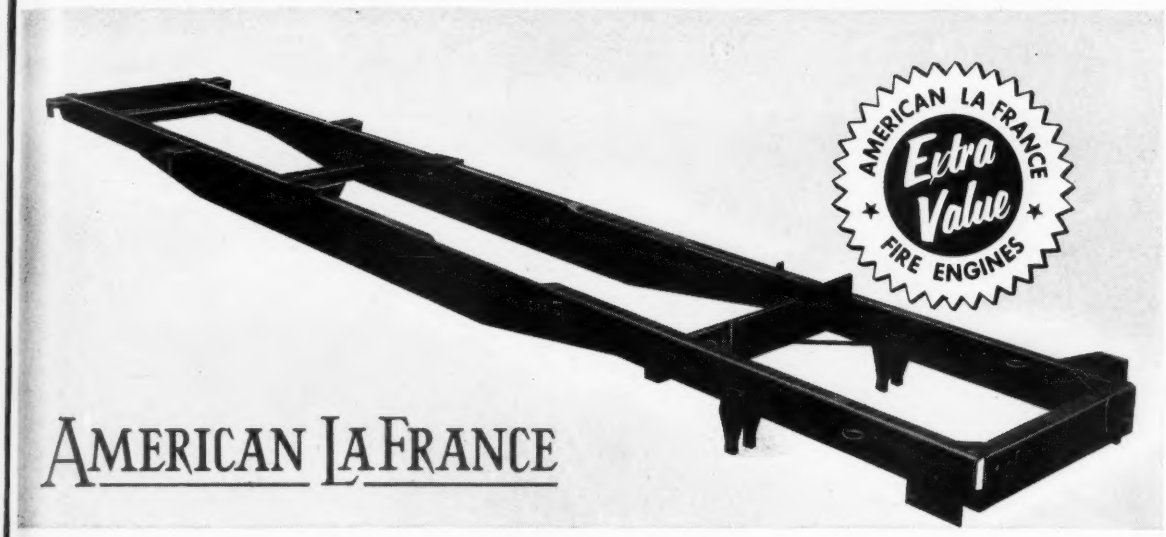
7. MOTRAC radio is conservatively designed. The receiver has *even higher* reserve gain than conventional Motorola units to assure *peak performance* for many years. Also, power supply transistors are operated under an exceptionally high safety factor to assure extended service life.

8. Completely independent receiver and transmitter chassis, with no power supply in common, assure reliable reception regardless of transmitter performance.

9. MOTRAC radio offers you 2½ to 3 times higher audio output than conventional sets.

10. MOTRAC radio is designed for split-channel operation. *Both* receiver and transmitter meet critical split-channel stability frequency requirements.

Experienced users have been field testing MOTRAC radios for many months. The results are in—and they're excellent. We'd like to tell you *all* about them. Write, wire or call: Motorola Communications & Electronics, Inc., A Subsidiary of Motorola, Inc., 4501 West Augusta Blvd., Chicago 51, Ill., SP 2-6500. MOTRAC is a Motorola, Inc. trademark.



Chassis frame in new 900 Series is heavier, stronger, more rigid . . .

The 900 Series pumper chassis frame incorporates important improvements to provide more strength, safety and rigidity. The greater stiffness (section modulus 10.15) means less deflection with full load on the roughest streets and less "working" of the sheet metal and body enclosures.

The frame side rail section is "fish belly" type with 10½ inch depth between the front and rear springs. All cross members and stiffening gussets are electric welded to provide a maximum of torsional strength and retain correct alignment under all operating conditions.

The "unitized" frame construction is one of the many American LaFrance Extra Value features. The design improvements include a deeper front cross member of "wrap around" construction at the front end of the frame side rails. Each of these Extra Value features are standard construction with American LaFrance.

The frame material is carbon steel (.17 – .25 carbon) without heat treatment. Heat treatment does not increase or affect the frame stiffness, only permits greater deflection of a lighter section. The greater frame section provides more stiffness and rigidity with a big factor of safety for full loading.

The SPARTAN, 1000 g.p.m. pumper

AMERICAN LAFRANCE

A DIVISION OF STERLING PRECISION CORPORATION
ELMIRA, N.Y., U.S.A.

LaFrance Export Corporation Elmira, N. Y.

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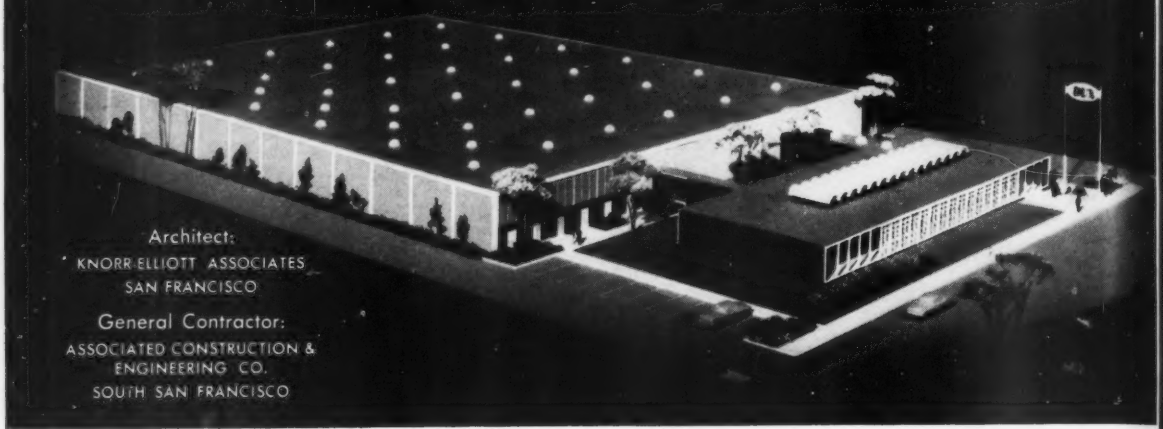

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General Contractor:
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protected *Automatically* by ADT

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Award-winning DUX Incorporated, importers and manufacturers of Scandinavian furniture, has just moved into its new national headquarters in Burlingame. The offices and assembly plant occupy 46,000 square feet near the San Francisco International Airport.

To safeguard its matchless designs, as well as the plant and offices against fire, burglary and other hazards, DUX chose, naturally, a combination of ADT *Automatic* Protection Services.

The handsome structure is protected against fire by ADT Sprinkler Supervisory and Waterflow Alarm Service, which automatically summons the fire department whenever the sprinklers operate. This service also maintains a constant automatic check on shut-off valves and other water supply conditions. ADT Burglar Alarm Service summons police in case of attack on doors, windows and other vulnerable points.

You can have the same *complete* protection as DUX, whether your project is large or small. There is an ADT *Automatic* Protection Service to meet your requirements and give better protection for property, profits and employees' jobs at *lower-cost!* Call our local sales offices if we are listed in your phone book, or write to our Executive Office.

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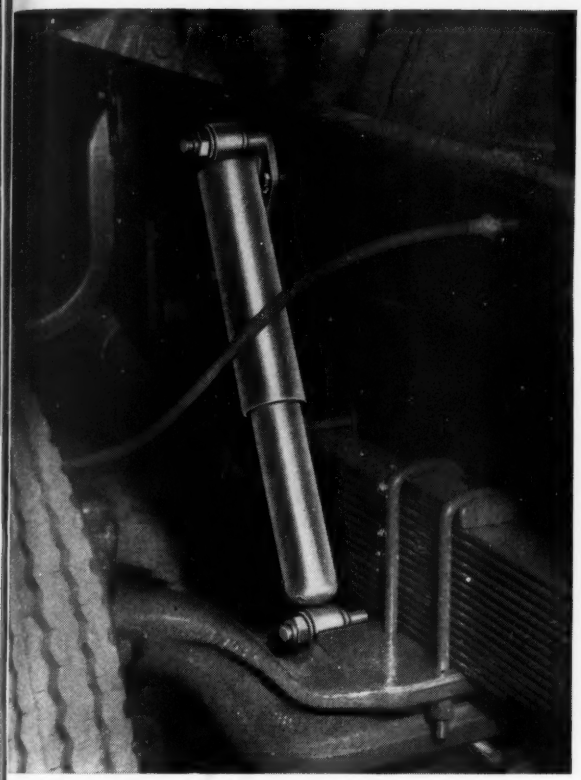

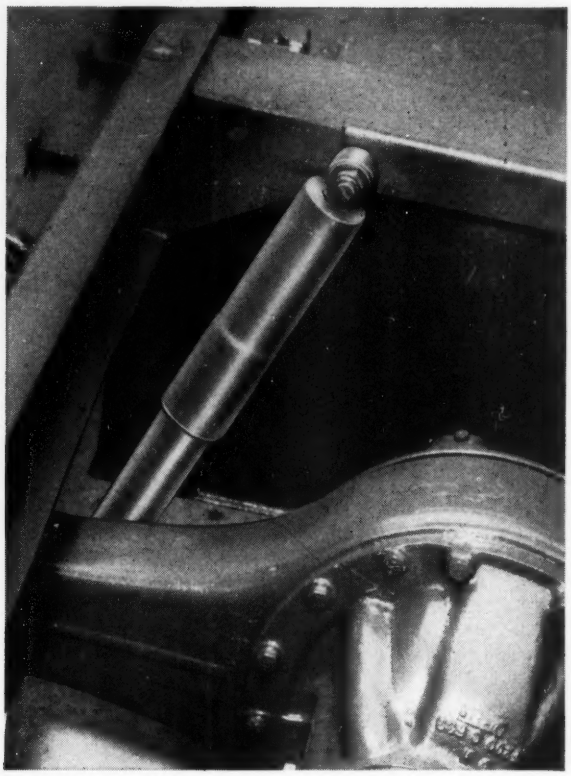

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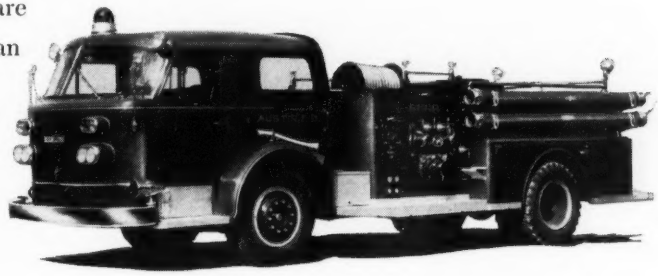
AMERICAN LA FRANCE Extra Value FIRE ENGINES

Stability and safety of vehicle operation is of paramount importance for emergency service. Shock absorbers at both front and rear axles are Extra Value features standard on all American LaFrance fire apparatus. They provide a maximum of operating safety and control under all road conditions.

Front mounted shock absorbers have long been recognized as essential to maintain steering control. Rear mounted shock absorbers not only add to the control, but create increased road stability plus greater safety for the men and equipment. Specify this Extra Value feature for greater safety and ride control.



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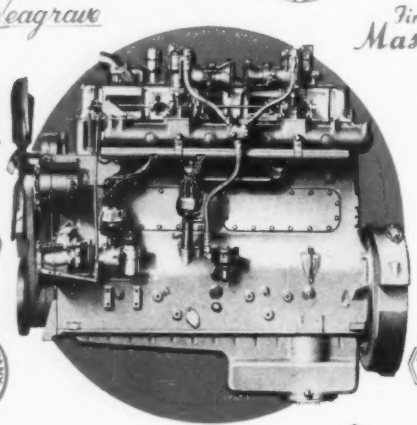

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Six cylinders, 5⅜-in. bore x 6-in. stroke; 817 cu. in. displ., with counterbalanced and vibration dampened 3½-in. 7-bearing crankshaft; dual downdraft carburetion; dual ignition; precision extra high capacity bearings; removable wet type cylinder sleeves, aluminum pistons, overhead valves with Stellite-faced exhaust valves and seats. Arranged for full electrical equipment and all modern accessories. Get Bulletin 1662.

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WAUKESHA *fire fighter* **ENGINES**

ELKHART'S NEW CONSTANT FLOW MYSTERY NOZZLE

Select-O-FLOW—Elkhart's most important nozzle development since the first Mystery Nozzle in 1936. In one nozzle you get all of Elkhart's proven benefits plus a new variable gallonage feature that allows you to dial the selected gallonage from 60 to 125 G.P.M. at 100 p.s.i. without shutting down the line. Underwriters' approved, Select-O-FLOW also has stream indicators for choosing wide to narrow fog patterns and straight stream too.

Select-O-FLOW

- Maintain accurate stream characteristics at all gallonage positions.
- Metal waterway insures perfect stream even when subject to heat and abrasive material.
- Stainless steel stem eliminates possibility of corrosion and abrasion.
- New synthetic bumper and hand grip resistant to oil, heat and sunlight.
- Improved handle for easier operation. (Horseshoe type handle optional).
- Patented stem construction. Increases fog distribution.
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- Underwriters' approved.
- Non-clogging—no screen required.
- Optional base swivel or solid.

Variable Gallonage Dial

Merely turn dial indicator and select variable gallonage from 60 to 125 G.P.M. at 100 p.s.i. without shutting down the line.

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More than half a century of fire fighting progress

Minneapolis meets the demand for high pumping capacity with new Mack B-125, 1250 gpm units. These pumpers are powered by 276 hp Mack Thermodyne engines...have 200-gallon booster tanks...three 5" suction inlets and five 2½" discharge gates.

Minneapolis adds new MACK pumpers for more high-capacity fire protection

Among the busiest pieces of apparatus in Minneapolis, where grain fires are a constant hazard, are seven Mack high-volume pumpers, highlighted by two new Model B-125, 1250 gpm units recently delivered.

With their unsurpassed ability to pump huge quantities of water for hour after hour, these seven Macks, including one 1500 gpm and two 2000 gpm pumpers, form the backbone of the department's pumping fleet. Minneapolis considers such super-capacity a virtual necessity for maintaining the modern fire protection program it depends on for battling big fires.

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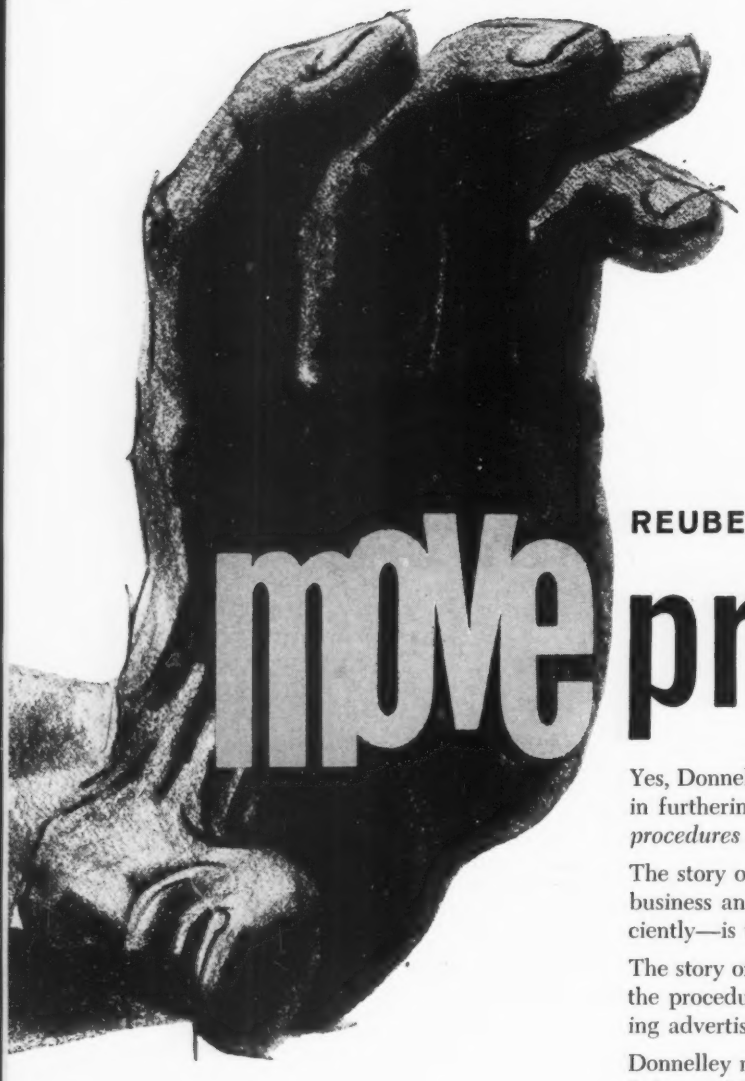

Sports Age
What's New in Home Economics
Electricity on the Farm
Ice Cream Trade Journal
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REUBEN H. DONNELLEY MAGAZINES

move products!

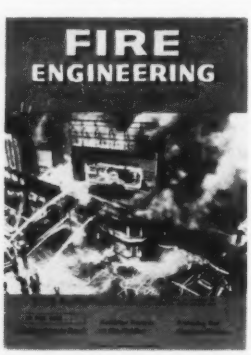
Yes, Donnelley magazines, all ten of them, move products. For, in furthering the *progress* of Donnelley-served-fields, modern *procedures* and modern *products* work hand in hand.

The story of modern procedures—how readers can fulfill their business and professional responsibilities faster and more efficiently—is told in issue after issue by Donnelley editors.

The story of modern products—all-important to readers' use of the procedures—is told in issue after issue by the fields' leading advertisers.

Donnelley magazines' editors state "how" . . . their advertisers, "what with" . . . and, together, the combination keeps progress on the march.

Among the Donnelley Magazines . . .



In the municipal and industrial fire protection field, FIRE ENGINEERING is dedicated to keeping progress on the march. Its editorial pages are devoted to better procedures, its advertising to better products. Proof that this concept meets with approval: with its ABC audited circulation at an all time high—it carries almost twice as much advertising as all other magazines in the field combined. It is truly" the market place of the fire service."

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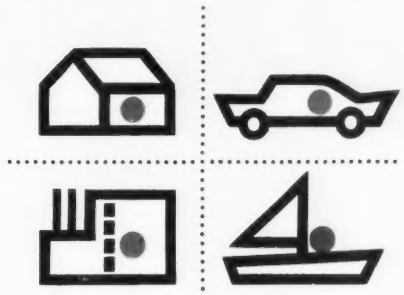

new products, new ideas for better fire protection

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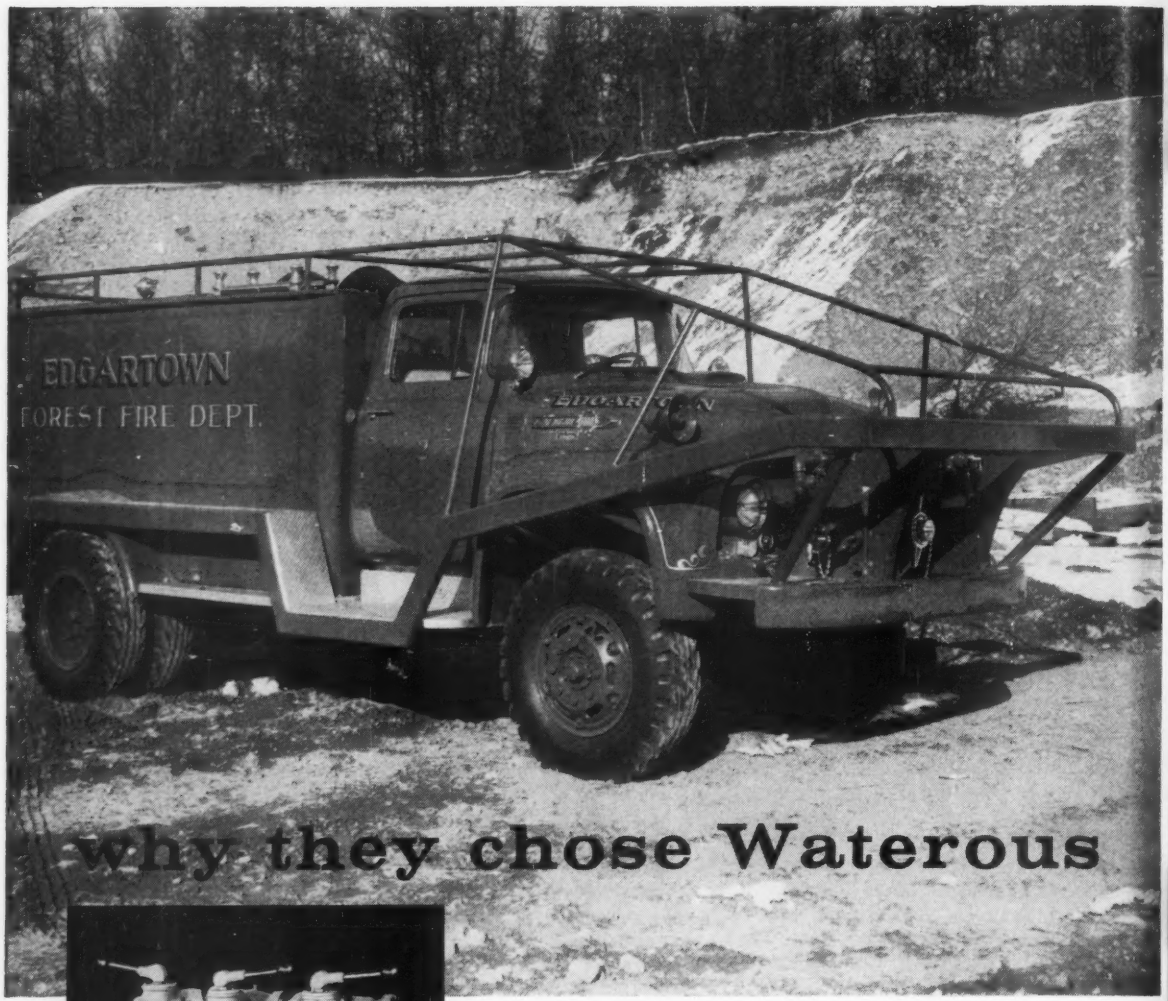
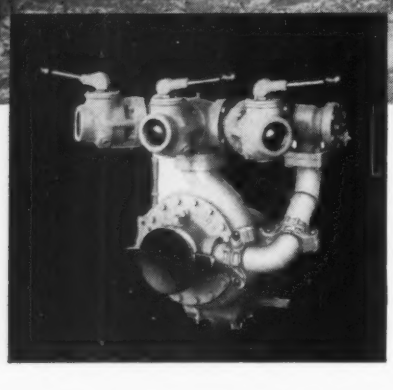


why they chose Waterous



Model CF-4 pumps more gallons per minute than any other service-proven, front-mounted pump

WATEROUS' front mounted CF-4 has a 750 GPM Class A Fire Underwriters' rating. Its three 2½" lines for structural fires mean lower insurance rates in most communities.

The CF-4 is a simple, compact unit that can be front mounted on any standard truck chassis. Its impeller shaft assembly is ball bearing-mounted—hydraulically and mechanically balanced to operate smoothly over its entire range—makes use of the truck engine's coolant for winter heating. An over-center, single-plate dry clutch permits positive engagement or disengagement at any engine speed. It's just like the clutch in the truck itself.

Where the advantages of a front-mounted pump are desired, the CF-4 provides superior performance and unmatched reliability.

For complete information on the CF-4 and other WATEROUS fire pumps write:

WATEROUS *80 E. Fillmore Ave., St. Paul, Minnesota, Dept. 309*

DUO Safety FIRE LADDERS

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With DUO-SAFETY Exclusive Tongue and Groove Construction

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Now, there's a Duo-Safety Ladder for every budget...for every use. The new Series 1200—an intermediate ladder—fills out the line to offer you a bigger choice of better ladders. Check the specifications below...you'll find the ladder for your requirements. Write for more information and prices.

Choose the Series to fit your needs!

SERIES 1000	For Pumper Use	24′ to 30′	[2¾″ CHANNEL RAIL
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SERIES 1200	**For Service Trucks**	**35′ to 55′**	**[3¾″ CHANNEL RAIL**
SERIES 500	For Service Trucks	10′ to 60′	TUBULAR RAIL

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INTERMEDIATE SERIES 1200

The new 1200 Series at budget fitting prices in the famous Duo-Safety line is an intermediate ladder to take care of a range of sizes where requirements are not sufficiently severe to necessitate buying the Duo-Safety heavy duty 500 Series tubular rail!

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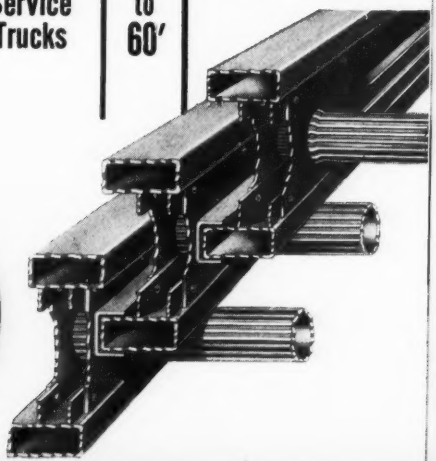
Adapted nationally by fire departments as standard ladder equipment, the 500-A Series represents perfection of ladder design. Light weight, greater strength and extraordinary safety are incorporated into the Tubular Rail Construction of this great ladder. Available in all standard ladder sizes 10′ to 60′.



DUO Safety

UO SAFETY LADDER CORP.

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How many lessons do we need?

Smoke floats across a schoolroom floor. A child screams, stumbles and falls into a doorway. Hysteria fills the hallways. Trampled bodies jam the exits. The fire's a roaring demon now consuming . . . consuming . . . consuming.

The story is not new. It happens in cities throughout our country — not just Chicago. And each time it happens the public is shaken from its apathy. We are suddenly aware because the statistics are children now. But for how long will we be aware? The ugly truth is — an aroused citizenry is not aroused for long. And again tragedy waits for its opportunity — *our own short memories.*

How many lessons must we learn? 12,000 people died last year in fires — 2100 were children. Yes, these are "statistics". But each was a "loved one" to someone. *And the real tragedy is — all of the lives could have been saved.* Here's something you can do to prevent such needless tragedies . . .

Have your Fire Chief, or School Board Official contact a Gamewell engineer. He is a highly trained expert in fire detection who can give you information and examples of fire alarm installations. And he will survey your buildings at no obligation to you.

He is backed by the largest plant in the world engaged exclusively in the manufacture of fire and other emergency signaling systems and equipment. Have your official call the nearest Gamewell Office — we will gladly accept the charges.

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VOL. 112, NO. 12

FIRE ENGINEERING

THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

DECEMBER, 1959

Saving Face or Safeguarding Children

A completely ridiculous situation involving the board of education and the fire department of the Town of Boonton, N. J., has occurred, which focusses attention on the effects of fire service campaigns to safeguard our schools. It has long been the rule that a fire chief, charged by law with the protection of life and property from fire, has the authority to insist on reasonable regulations to assist him in discharging this responsibility. Apparently this rule is not applicable in some parts of the State of New Jersey when it concerns a public school.

Sometime ago, Boonton legally created a fire prevention bureau within its fire department. Following the nationwide horror resulting from the Chicago school tragedy, the bureau proceeded to "get tough" in matters of school fire safety. A total of 63 violations were listed following an inspection of the local schools. At a meeting with the board of education, it was agreed that all would be corrected; the majority were cleared up in a matter of weeks. At the time, the violations were not made public, due to an upcoming referendum concerning a new high school building. It was felt that publication of the hazards would unduly alarm the parents and might jeopardize the question.

The most important single item concerned fire escapes on an overcrowded high school. The board of education included a budget item in the referendum for the construction of the escapes. After successful passage of the referendum, the board went about getting bids for two enclosed stairwells within the $20,000 limit set in the referendum.

The fire prevention bureau patiently waited for the fulfillment of the agreement until it was evident that the stairs would not be built by the opening of the school for the 1959-60 year. It forced the board of education into advertising for bids on fire escapes by declaring the school would be closed if the devices were not constructed by the opening day. This threat was made good when the bureau served an order on the board instructing it not to open the school since the fire escapes were not in place.

Then began the legal byplay culminating in a ridiculous impasse. The Boonton Board of Education attorney advised the members to disregard the order as the bureau had no jurisdiction over the public schools. Thwarted by inaction, the bureau took the case to court to test the ordinance and the state law empowering its own creation. The legal decision favored the school board.

The presiding magistrate, basing his findings on the wording of the local law, noted that the ordinance does not mention the closing of any building and that neither the municipal court nor the fire prevention bureau has jurisdiction to close a school under the state law. He also questioned whether or not the bureau even had the power to order installation of fire escapes in a public school. The judge pointed out that he had no power to issue a declaratory judgment to determine the right of a municipality to regulate public schools for any purpose and if this was sought, the town must go before the State Superior Court.

The result of this decision has implications which go far beyond the township limits of Boonton and even the state line of New Jersey. It is plain that other school officials hard-pressed by fire inspectors to correct deficiencies may attempt to follow this lead and challenge the authority of the fire chief. However, the Boonton Board of Education apparently has discovered it won a hollow victory, for it immediately offered to cooperate with the fire prevention bureau by inviting it to—continue to make inspections—and recommend the correction of any hazards that inspections may reveal.

It is apparent that in pressing for a determination of the issue, very little consideration was given to the continuing safety of the children who are required to attend the school in question. Since it has been settled that the Boonton Fire Department has no jurisdiction over the schools, what steps have been taken to insure the safety of the pupils pending the completion of the fire escapes? It is possible that the many questions raised by this unfortunate turn of events will require further legal action before it is resolved. In the meantime, are the pupils of the school required to risk their lives every time they enter the building? It may be comforting for some to revel in authority backed up by a court decision. On the other hand, it should be very sobering to contemplate the burden of responsibility which the same decision placed squarely on the shoulders of a school board!

Alan O'Brien

By SIDNEY WOHLFELD

The author retired as a battalion chief, New York Fire Department, in 1958 after 22 years of service. He then joined Federal Electric Corp., service arm of the International Telephone and Telegraph Corporation, and is presently employed as safety assistant in charge of fire and safety protection of the approximately 60 radar stations located on the Distant Early Warning Line in the Arctic. He also serves as instructor, safety practices, for the Fire Administration Course at Queens College.

Fighting Fire on the DEW Line

Arctic conditions create unusual fire protection problems for early warning personnel

FIRE AND SAFETY protection of the approximately 60 radar stations of the Distant Early Warning (DEW) Line encompasses so many unusual problems that it makes fire fighting in any city seem easy by comparison. Frequent dense fogs, winds of hurricane velocity, temperatures of −70°F. and blinding white-outs in addition to numerous other problems make fire fighting extremely difficult and sometimes impossible in the Arctic.

Total darkness for months at a time slows down discovery, response and operations at fires. Some station sites are accessible only by air; two of them are in terrain so rugged that only helicopters can reach them; at another, the airstrip ends in a 2,000-foot drop. Savage storms have on occasion isolated the sites for over 50 consecutive days and maintenance of airstrips is difficult due to frequently drifting snow. Hungry polar bears and wolves occasionally invade the station or stalk personnel, adding to the safety problems.

The DEW Line is divided up into six sectors, with a main station in the center of each sector. This is flanked by alternate auxiliary and intermediate stations about 50 miles apart. The same type of basic building structure is used for personnel housing at all stations. This is the module, or compartment, 16 x 28 x 10 feet in size. Modules are placed side by side on a prebuilt foundation sill and interconnected to form a row or in DEW Line terminology, "a building train." Although these prefabricated buildings look like railroad cars on stilts, there is a "method in the madness," as this type of construction allows wind-driven snow to sweep beneath the structures and at the same time prevents heat passage to the soil beneath.

Layout of stations

The general plan of each station follows the same pattern. The building train which has radome structures at main and auxiliary stations is usually the central point of the entire site. The garage and hanger, set on gravel pads, are some distance from the building train, and are separated from each other. These three types of buildings are located far enough apart that a fire cannot spread directly from one building to another. Diesel oil heaters and reclaimed heat from the diesel engines that drive the electric power generators are utilized for heating the buildings.

Temporary storage facilities are constructed of wood and canvas. The extremely low humidity which is present in the Arctic, causes these materials to dry out and become highly combustible, adding to the fire hazard. Many of the larger structures are supported by unprotected steel framework covered with insulated steel and aluminum sandwich panels. Metal, rounded and pitched roofs of buildings are covered most of the year with snow and ice, making them slippery and difficult to ventilate, for effective interior fighting.

Huge stocks of combustible items are stored throughout the stations. Stockpiles are separated to prevent complete destruction of necessary supplies. Aviation gasoline is stored in 250,000-gallon tanks, as well as in 55-gallon drums. Bulk diesel oil is stored in tank farms, the huge tanks containing from 20,000 to 250,000 gallons. These are located in the lower areas of the stations to prevent fire flow in case of leaks. Dikes around them are not practical due to constantly drifting snow which would fill them and destroy their value.

Sea lifts to bring in the bulk of supplies by water are confined to only a few weeks when the ice partially melts. Dynamite is frequently used by frogmen on the ice breakers, to enable ships to get in close enough to discharge cargo and set up oil discharge pipe lines.

Summer time

The top layer of snow, ice and frozen ground melts for a few weeks in the summer and leaves a sea of muddy water. Traveling is slowed to a standstill at this time, and it becomes extremely difficult to reach some areas. The confined ground water in the underlying permafrost may later be put under pressure by freezing to form ice fields, frost heaving, frost boils and cavities. This may cause the foundation supports of structures and gasoline and oil tanks to shift and cause destruction. Ice may thaw and then refreeze in some areas over lagoons and on the lee side of solid ice, especially along the offshore line. Snow often covers cracks in the ice, making it appear solid. Men and vehicles can quickly disappear below the surface of ice that previously held their weight.

Fire protection

In addition to being insulated and weather-tight for heat retention and

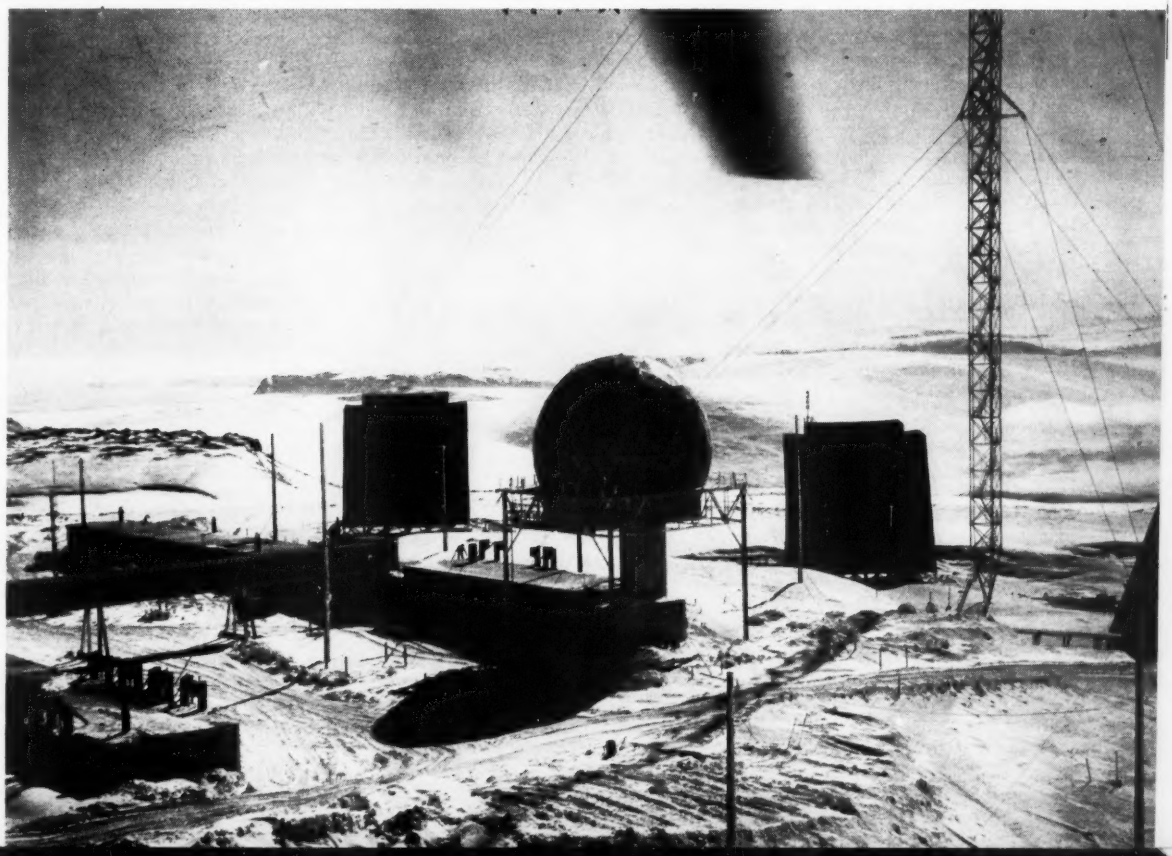
Continued on page 1156

Off-loading supplies during "Sealift" time when the ice is out. Period when major supplies may be brought in by water is limited to approximately two weeks in a year

Author responds with BAR Main Fire Brigade during practice session. "Weasel" facilitates movement over ice and snow of Arctic terrain

Aviation gasoline fuel dump at DEW Line station. Heavy dependence is placed on planes for routine and emergency supplies

Typical DEW Line installation at DYE main station



Members of FDNY Supervising Engineer Unit No. 1 check eductors, specially built to the fire department's design, and portable pump. New York keeps a number of the devices on hand for frequent dewatering purposes photo courtesy FDNY

Removing Waste Water

Some important factors to consider when dewatering a building

By **DONALD M. O'BRIEN**

DEWATERING a premises following a fire is a problem which may face a fire department at any given time. The need for this operation may also exist without an accompanying fire after a break in a water main or following a flood. Certain areas of this country which are regularly plagued with flood conditions have adopted standard procedures for dealing with this menace in order that community welfare be maintained. Reports of this work are usually recorded in the spring season along any of our great and not so great rivers.

At other times hurricanes may create emergency conditions in sections of the country not normally considered critical flood zones and cause great hardships which the fire service may be called upon to alleviate. For example, several years ago the Yardley, Pa., Fire Co. No. 1 logged over 61,000 man-hours of labor following a hurricane-created flood. In an effort to speed rehabilitation of the community, the company pumped out over 400 cellars of homes of unfortunate victims.

During this same period the Philadelphia Fire Department was called upon to assist at more than 90 dwellings and 50-odd business establishments which were flooded following inundation of the city's southwest area when a dike burst. An extension of the city subway system, then under construction, was also pumped dry in order that work schedules could be maintained.

Necessity for dewatering

The need for dewatering operations may be dictated by several considerations. It may be necessary to facilitate fire fighting safety, for salvage purposes or to promote sanitation and the safety of the general public. The methods employed are fairly standard throughout the fire service and in general, consist of the use of eductors, sometimes referred to as "siphons"; portable pumps; or in certain circumstances, the use of regular fire apparatus pumps.

Eductors are a popular and common device for performing dewatering operations. The equipment consists of a casing, open at the bottom, through which the water to be removed is drawn. A strainer, to prevent debris being drawn into the device, may be attached to the bottom end. A vertical tube or discharge pipe, centered in the casing, carries the water upward to the discharge. A fire department coupling is provided at the top for the connection of a hose line to lead the waste water up and out of the premises.

A nozzle is placed in the casing in such a manner that water admitted to it under pressure is forced upward as a jet in the discharge pipe. This nozzle is fitted with an exterior coupling permitting the attachment of a hose line from a pumper or hydrant which provides the water under pressure. As the water under pressure is forced through the nozzle, into the casing and out of the discharge, a venturi action occurs. A partial vacuum, or pressure differential, is created within the casing and the waste water is forced up through the base of the eductor by atmospheric pressure acting on liquid surface, and is discharged together with the water supplied to the device.

The velocity of the water being

Chart 1—Waste Water Removed in Gallons per Minute

STATIC HEAD	10 FT. HEAD					20 FT. HEAD					30 FT. HEAD				40 FT. HEAD			50 FT. HEAD			60 FT. HEAD		
HOSE	3"		3½"		4½"	3"		3½"		4½"	3"		3½"	4½"	3"	3½"	4½"	3"	3½"	4½"	3"	3½"	4½"
NO. & LGTH.	1L	2L	1L	2L	2L	1L	2L	1L	2L	3L	1L	2L	2L	4L	2L	2L	5L	2L	2L	6L	2L	2L	7L
EP—90# JET—75#	186	125	277	220	335	158	100	230	180	319	115	60	100	194	25	50	125	0	0	83	0	0	X
EP—120# JET 100#	240	150	312	267	347	214	136	292	237	347	188	105	156	300	71	138	210	41	93	167	0	0	X
EP—150# JET—125#	270	175	340	300	347	250	180	332	270	347	230	150	234	347	125	197	312	88	156	210	45	140	X
EP—180# JET—150#	312	215	357	340	357	300	210	345	310	357	272	180	288	347	156	208	326	130	208	326	100	208	X
EP—210# JET—175#	326	242	357	357	357	312	220	350	340	357	300	208	326	357	188	288	340	170	250	340	136	250	X

Chart Courtesy WNYF

Note: 3-inch hose in 50-foot lengths; 3½-inch hose in 25-foot lengths; 4½-inch hose in 10-foot lengths. The figures show only the water actually removed from the test location using the New York type of eductor. Comparable results can be expected with other models of eductors.

discharged from the nozzle forces the total amount of water being removed through the device upward, with the maximum depending upon the pressure at the nozzle. The efficiency of an eductor is low, measuring between approximately 30 and 60 per cent, but it will still move large quantities of water.

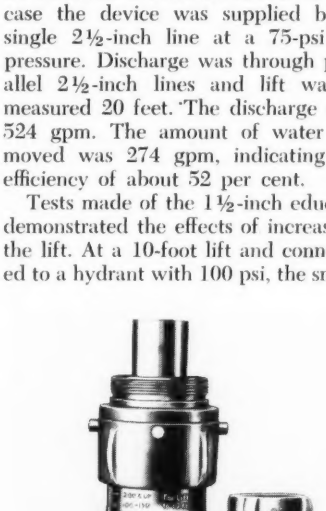
Recent research

Fred Shepperd in "Fire Service Hydraulics" (page 154) devotes a section to the principles of operation and the hydraulics involved. Beyond this, very little study had been devoted to the unique devices until the New York Fire Department researched the various operating characteristics in connection with the design of a new eductor model. A report of these findings by Captain Thomas W. Ryan, Supervising Engineer Unit No. 1, published in WNYF, April 1957, forms the basis of much of the hydraulic performance tables used in this article.

The figures in Chart 1 indicate graphically the importance of keeping friction loss in eductor layouts to a minimum. While 2½-inch hose was not employed on the discharge side, due to the friction factor, it is possible that results comparable to 3-inch hose may be obtained if two lines of 2½-inch hose are wyed from the device. Eductors are presently manufactured in the 2½-inch size rated at 18,000 to 20,000 gph at a 12-foot lift, and also in 1½-inch size which is rated at 4,000 to 6,000 gph at the same lift.

Tests have been made of the 2½-inch eductor mentioned above. In one case the device was supplied by a single 2½-inch line at a 75-psi jet pressure. Discharge was through parallel 2½-inch lines and lift was a measured 20 feet. The discharge was 524 gpm. The amount of water removed was 274 gpm, indicating an efficiency of about 52 per cent.

Tests made of the 1½-inch eductor demonstrated the effects of increasing the lift. At a 10-foot lift and connected to a hydrant with 100 psi, the small eductor removed 6,000 gallons per hour with an efficiency of approximately 59 per cent. At a 20-foot lift, the same eductor removed 5,200 gph, or an efficiency of 49 per cent.



One type of commercial eductor has variable "jet tube" or nozzle within casing. This permits greater efficiency when hydrant or pumper stream pressure is low

The great value of the eductor is its ability to work at lifts which are well beyond the capabilities of pumps. For example, with a jet pressure of 175 psi and discharge lines of parallel 3-inch hose, the FDNY tests show that 136 gpm were educted at a 60-foot head. Other advantages immediately apparent are the absence of possible damage to pumpers due to pumping gritty or dirty water and the absence of the danger of noxious fumes being introduced into poorly ventilated subcellars, etc. Furthermore, the pump supplying the eductor may be some distance remote from the scene of operations, thus lessening or eliminating excessive noise in the immediate area.

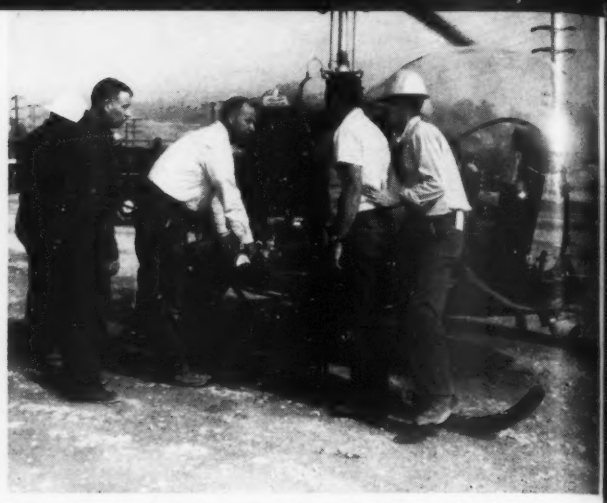
Eductors may be employed directly from good hydrants where lifts are not too great, thereby removing entirely any objectionable noise. Results naturally will not be comparable to those where pumpers are employed to increase the water pressure.

FDNY suggestions

The New York Fire Department offers the following suggestions for the use of eductors based upon their experience and data collected from their research:

Continued on page 1162

Five helicopters were used for observation and transportation of men and equipment, including injured personnel. Craft shown is an S55 "Sikorsky," under contract to the U.S.F.S.



L. A. County helicopter transported injured man directly from scene of operations to hospital. Some fire fighters were overcome by smoke and others were injured in falls

—L. A. County F. D. photos

Aerial Armada Fights Giant Angeles

By CLIFF DEKTAR

WHAT IS BELIEVED to be the largest aerial fire fighting armada ever used in the United States was brought into action in mid-October to combat one of Southern California's most difficult brush and forest fires. The Woodwardia fire, as it was named by the U. S. Forest Service, broke out at approximately noon October 13 eight miles north of Foothill Blvd., La Canada, along the Angeles Crest Highway in the Angeles National Forest.

The weather was hot (87 degrees in downtown Los Angeles) with medium winds and low humidity when the alarm was received. U.S.F.S. responded with all available pumper crews on the initial alarm and the L. A. County Fire Department dispatched six engines, a patrol and six camp crews with nearly 100 men and boys. The response was too late however and the fire swept off into the tinder-dry brush in the steep canyons and ridges of the San Gabriel Mountains. The blaze raced southward along both sides of the highway and for a time it was feared it might burn into exclusive residential tracts in La Canada.

L. A. County Fire Chief Keith E. Klinger personally took command of the lower lines between the homes and the onrushing flames. A large number of pumpers were massed here, and only one expensive home was damaged. Joining U.S.F.S. and County units bearing the brunt of the fire were OCD units from the California Disaster Office, Pasadena, L. A. City, Kern and Ventura Counties. The California Division of Forestry brought in 48 fire trucks, some from as far as 500 miles away, and ordered activation of its Santana Task Force. Also, from Northern California National Forests, more than 500 miles distant, Forest Service men and equipment started converging for the expected long battle.

Extensive aerial operations

Because of the rugged terrain, aircraft tankers came into their own. Twenty-one of the flying tankers under contract to the U.S.F.S. were used in the week-long operation. They dropped over half a million gallons of fire-retardant solution from bases in Van Nuys, Chino and Palmdale. Five government-owned T-34 lead or "bird dog" planes flown by Forest Service pilots were used to direct the operations. The tankers materially aided the slowing of the fire in certain inaccessible regions.

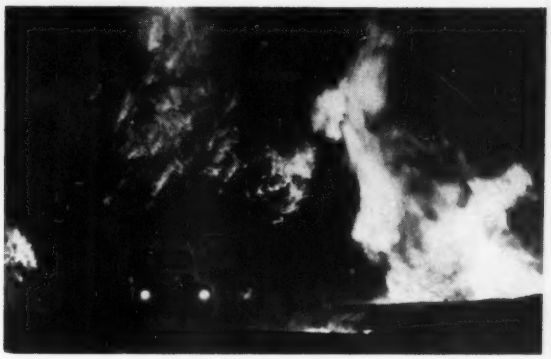
In addition to the 26 fixed-wing aircraft, three helicopters were employed by the U.S.F.S. and two by the County for observation and transportation of men and equipment including injured personnel. On Friday, October 16, a crew of Indian specialists was doused with borate solution from an aerial tanker, and as they apparently scrambled to avoid the deluge from the sky, several were injured. A doctor and resuscitator were flown in by helicopter to the scene of the accident near Mt. Lukens. The injured were transported to St. Luke's Hospital in Pasadena where one of the fire fighters died.

Also, on the 16th when the fire made a swift movement to the east over Brown Mountain, a 100-man Forest Service "spike" camp was set up on top of the 4454-foot mountain. An S-55 helicopter was used to ferry men and equipment to this mountain camp. The S-55 has been used in the Angeles since September 15 and based at the Chilao Heliport. It carries five to seven men with equipment and has been used in initial attack for "hot shot" crews. This is the first season the U.S.F.S. has used such a large helicopter. In transporting the men to Brown Mountain, the Oak Grove heliport, two miles from the fire GHQ at Oak Grove Park, was used. Paper sleeping bags were flown in and food transported in "hot cans."

A vital factor during the operation was coordination to avoid collisions between fixed-wing and rotary aircraft. Lee Berriman, F. S. air projects officer, was the fire's air officer with Ralph Johnston, Angeles Forest helicopter foreman, acting as helicopter

L. A. County F. D. crew fills PBY, which carries 1,100 gallons of chemical fire retardant, at Van Nuys Airport. From October 13 to 19, County personnel filled air tankers with 142,000 gallons of slurry representing 215 tons of sodium calcium borate—*L. A. County F. D. photo*

Firemen flee for their lives along Crest Highway as huge flames sweeping through the Angeles National Forest raged on both sides of the highway. The location is about 30 miles northeast of Los Angeles



Brush Fire

officer. The two men, using radio and telephone, worked together at the fire GHQ to keep helicopters clear of the area when the tankers were at work and to maintain contact with fire crews on the ground and the "bird dogs" in the air as to where drops were needed.

One aircraft mishap occurred when a four-engine Privateer crashed on takeoff at Palmdale Air Base, Monday, October 19, while on way to the fire. The plane piloted by Carson Shade got 50 feet off the ground and then made a forced landing at the end of the runway with landing gear up. There were no injuries to the pilot or co-pilot, but the right wing, the propellers, and the water tanks were damaged.

A total of 14,045 acres were burned before final control was made at 6 p.m., October 20. Many other installations besides the residential areas were endangered. Resort cabins, a Nike base, a school forestry center, a lookout tower and ranger station were threatened. The fire burned into the headwaters of the Big Tujunga Canyon and could have easily raced down into populated sites. Several hundred persons were evacuated from their homes and Mt. Wilson with its observatory and TV transmitters also was in the path of the blaze.

More than 2,100 men from the U.S.F.S., California Division of Forestry, L. A. County, military and In-

Concentration of equipment and manpower during peak of the fire. Apparatus shown is from Army, U. S. Forest Service, California Disaster Office and L. A. County Fire Department—*L. A. County F. D. photo*

L. A. County Fire Department chemical unit along Angeles Crest Highway mixing fire-retardant material. U. S. Forest Service pumpers provide water while helicopter stands by in background. Note burned off area in rear—*L. A. County F. D. photo*

Fire fighters along the Angeles Crest Highway watch as backfires they started climb up a hill. More than 2,000 men massed around the 14-mile perimeter of the blaze

dian personnel, plus trained state prisoners, battled the fire. There were some 200 engine companies or tanker units and 30 bulldozers used.

A sidelight on logistics—U.S.F.S. sent to the fire from its Arcadia warehouse 40,000 flashlight batteries, 10,000 blankets, 5,000 canteens, 3,000 cots, 4,000 headlamps, 35 miles of hose, 6,000 fire tools, 8,000 paper sleeping bags and 1,600 safety hats.

In charge of the fire were Richard F. Droege, Angeles Forest supervisor; Chief Klinger for L. A. County; and James Mace, deputy state forester. Field fire bosses were Jay Paterson, Angeles fire control officer, and Roland Percey, L. A. County division chief.

Droege pointed out that on many fronts the aerial operations not only materially retarded and aided control of the fire, but saved thousands of man-hours of hiking into areas inaccessible by road.

New fires threaten

Further complicating control of the main fire were three other blazes which occurred during this week of low humidity, winds and heat. At 12:34 p.m., October 15, a fire broke out on the Trippet Ranch between Pacific Palisades and Topanga Canyon in the Santa Monica Mountains.

L. A. County responded with six engines, four patrols, two camp crews and Assistant Chief Harvey Anderson who was resting at home after coming off duty at the Angeles fire. L. A. City dispatched two patrols and a bulldozer. L. A. apparatus at the Angeles blaze was released to the new fire and five Ventura County rigs were rushed to the new outbreak. Santa Monica sent units to cover County Stations 70 and 88, while Ventura County moved into Stations 65, 67 and 72 and the city of Oxnard into Station 68. The Forest Service sent one "bird dog" plane and one air drop was made. It was feared that this fire might develop into major proportions like the recent Malibu and Topanga fires.

Chief Klinger flew by helicopter from the main fire and after a reconnaissance over the area, landed for conferences with ground chiefs. By 6 p.m. it appeared the fire would be held at 200 acres.

At the height of this blaze, County Deputy Chief John Duncan, in charge of apparatus and manpower, ordered all County reserve rigs manned and placed in service. At about the same time, Frank G. Bonelli, chairman of the L. A. County Board of Supervisors, asked that body to declare the County a disaster area and instituted a directive which, as local newspapers somewhat overzealously put it, made Chief Klinger a virtual "fire czar." Actually, the chief already was drawing equipment and personnel as needed from other County departments, but the directive made accounting and payment much simpler.

On the afternoon of Sunday, October 18, two additional fires occurred in the Castaic Area near Newhall—both miles distant from the Angeles and Topanga areas. The Romero fire broke out in County area west of Castaic, and the Edison fire north of Castaic in the Forest Service area.

Crews and equipment which had been carefully held back for just such an emergency were rushed into action and the first blaze was soon controlled. California Division of Forestry crews, bulldozers and inmates from Tehachapi were rerouted from the Romero fire to the Edison fire and participated in control there. Since the U.S.F.S. aerial tankers were tied up with the Edison and still-burning Angeles fire, the California Division of Forestry dispatched four planes from distant Ryan Field, Riverside, to make drops on the Romero fire—certainly a case of far-flung "aerial mutual aid."

For the past two years, the California Division of Forestry's Santana Task Force has been moving men and machines into the dry Southern California counties of Riverside, San Bernardino, Orange and San Diego as rains eased the Northern California fire hazards. This year it was determined to bring 25 fire trucks, 10 bulldozers, five dozer service units, some specialized equipment, along with 80 men to the Southern California districts to be available during the period of high hazards.

CDF activated this task force several weeks earlier than scheduled to aid in control of the Woodwardia or Angeles fire. Shortly after the Angeles fire was controlled, some Santana units were recalled as a number of bad fires raced through the High Sierras near Sacramento and Placerville. However the basic task force will remain in Southern California until sufficient rain comes to end the fire danger.

Initially it was believed the fire was touched off by a carelessly thrown cigarette, but a month later, after a thorough investigation, a seasonal employee of the U.S.F.S. stationed at the Angeles Crest Ranger Station, admitted he set the fire. William D. Grater, Jr., 21, of Tujunga, now awaiting trial, signed a statement in which he allegedly admitted setting the fire because he was "disgruntled and fed up with the service and wanted to get even." □□

Instructor explains use of Geiger Counter to class at new Baltimore City training center. All fire fighters receive the training and in addition, 200 city policemen have taken the course

Baltimore Trains for Radiological Hazards

THE BALTIMORE Fire Department recently set up a radiological training course for all its personnel. This was done after it became evident in 1955 that the widespread use of radioactive materials in manufacturing and by the medical profession was increasing the radioactivity hazards for the department.

With the approval of the board of fire commissioners, Chief of Department Michael H. Lotz (since retired) and Deputy Chief Frank J. Trenner, with the cooperation of Colonel Frank Milani, Civil Defense director for Baltimore; Battalion Chief John E. Thomas in charge of the fire school; Captain J. William Hoffman, instructor, and Colonel Joseph F. Santilli, started intensive research to gather the material for the course. This required more than two years. Training manuals were printed and charts, survey instruments and radioactive materials were acquired. Since members of the Baltimore Police Department might also be exposed to radiation hazards, they were invited to attend the training. They accepted and prepared for about 200 of their key men to attend.

Two eight-hour sessions

The course consists of two eight-hour sessions. The first is slanted toward peacetime uses of radiation in manufacturing and commerce. Various types of shipping containers for radioactive materials are

Survey class measures radiation levels at various points of simulated city and record findings. Information is then plotted on master map to complete the survey. The importance of the data to fire fighting operations is then discussed

shown and the use and storage of these materials throughout the city are noted. The hazard to emergency personnel in the event of accidents or fires during the transportation of the materials is discussed. Detection instruments, including dosimeters and film badges are distributed in the classroom and their use in radiation detection is demonstrated.

Charts are employed to show the effects of radiation on personnel and the possibility of recovery from radiation sickness, depending on the dosage, is noted.

Radiation machines, the types of radiation they produce and their hazards are discussed. The fire hazards of scrap uranium and means of control are noted as well.

The second session of the course covers atomic explosions, contamination and the shielding qualities of different materials. Folders listing the precautions to be taken in the event of nuclear attack are distributed and instructors stress that fire department personnel, in addition to being a peacetime army equal to all types of emergencies, will also have certain additional duties in a war emergency. Charts show the warning sectors into which the nation is divided, and how it is protected by radar, planes and boats.

The different types of nuclear bombs, their destructive power and the types of bursts are discussed. Circles are drawn on maps to indicate the damage that could be expected in each zone. These maps are also used to show the application of Rawin Data sent out by the weather bureaus through the nation and how the information is used to predict radioactive fallout from bomb drops on another city. Since this data is sent out in code, the Baltimore course instructs the students how to decode it.

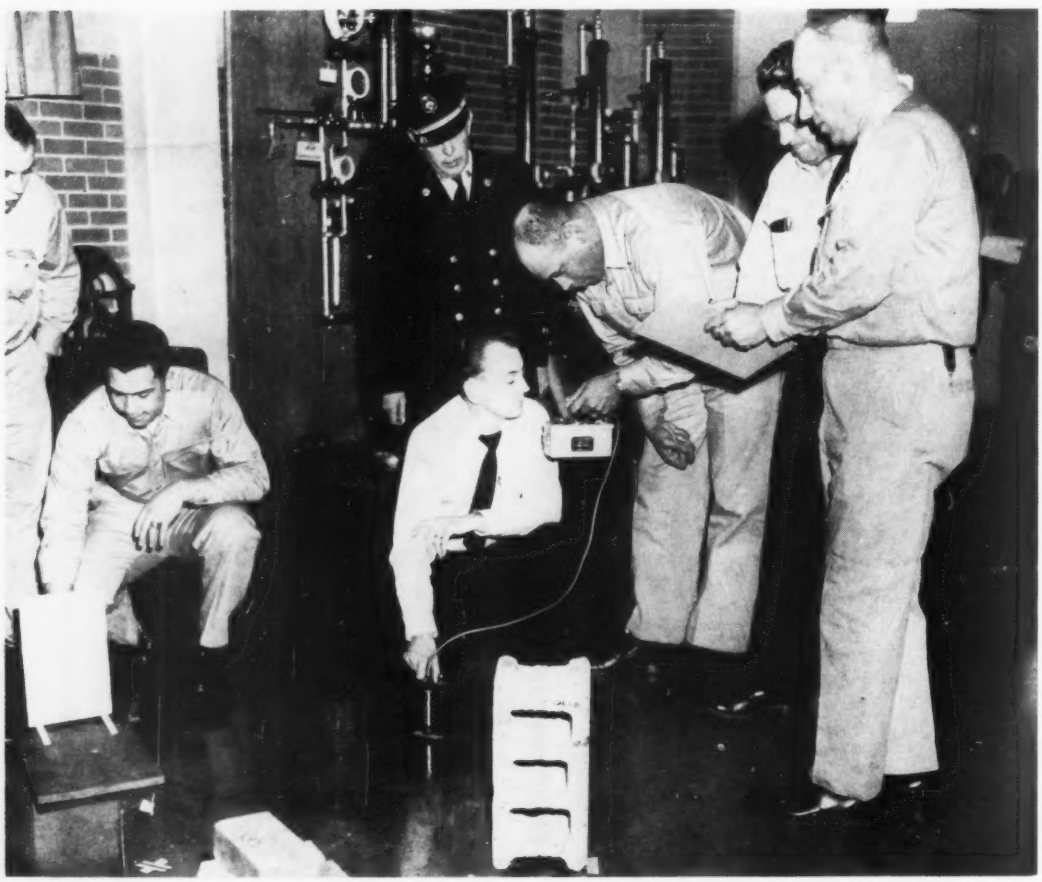
Conditions simulated

Three very important factors—time, distance and shielding—are demonstrated. In an area of the main school building's auditorium, simulated streets are marked on the floor with tape. Radioactive Cobalt-60 is placed under plastic covers and the students survey the area with Geiger-Muller counters. They record their readings on a master chart and plot the safe and unsafe levels of radiation intensity. In a shielding exercise, the absorbing qualities of brick, sand, steel and water are demonstrated. Finally, there is a review of the entire course and question and answer sessions.

As an indication of their interest, some students have voluntarily attended while off shift or on vacation in order not to miss a session. Members of the police and fire departments who have attended have commented very favorably on the course. Each has gained a better understanding of radioactivity and familiarization with the use of portable detection meters.

The course is conducted by Captain J. William Hoffman, Lieutenant Francis Webster and Fire Fighter Jack A. True, under the supervision of Battalion Chief John E. Thomas, in charge of the fire school. The instructors have attended courses in radiological techniques and monitoring conducted by the U. S. Atomic Energy Commission, as well as Federal, Maryland and the Baltimore City civil defense agencies.

Training in radiation detection and protection will continue as companies return to the fire school for refresher courses. In the fire training building, problems will be set up with radioactive material under fire conditions. □□



In school problem, students use survey instruments to determine the shielding qualities of various materials. Battalion Chief John Thomas, chief of training, looks on as fire and police officers compare notes

Junior Colleges Offer Courses To San Diego County Firemen

By ROI B. WOOLLEY

SAN DIEGO COUNTY, CALIF., fire fighters are going to college to improve their knowledge of fighting and preventing fires. Although other California counties are enjoying the benefits of firemanship training programs at the college level (the state was one of the first to institute firemen's training above the elementary and basic grades), this year marks the first time that credit courses have been available to San Diego County fire fighters.

Prior to this year, the County's firemanship training was of the hit-or-miss variety, with but occasional shots in the arm afforded by visits of the state's fire training instructors, working out of the Office of the State Department of Education, under the direction of Thomas S. Ward, supervisor of fire training. In this situation, training varied but little from that practiced in so many other areas of the country. Even though the State of California had set up the machinery for at least fundamental training in firemanship, the fire forces of San Diego County somehow had failed to gear their own training efforts to the state's educational "power plant." One veteran County fire chief described the situation this way: "Somehow or other, our County fire fighters just couldn't get together on training at the county or state level. We had no plan, no program and no definite policies for instruction in firemanship. Nor did we have any persons to provide the punch and push to put over any training project."

To one familiar with the national firemanship training picture, San Diego County's predicament was not so novel. But to fire fighters of the area, which is growing by leaps and bounds, the situation was acute.

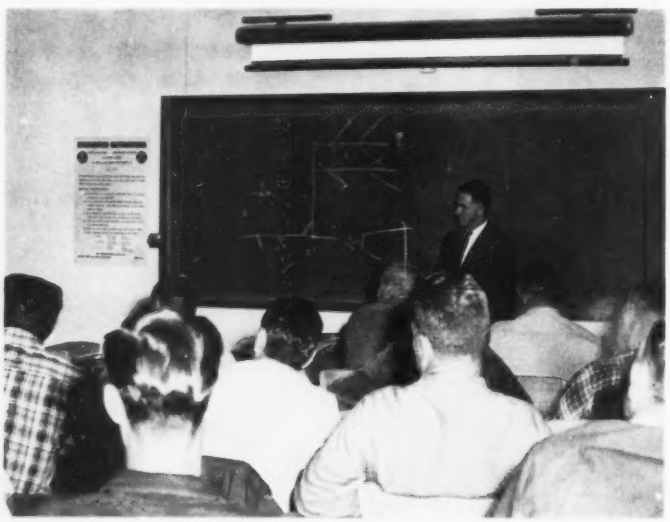
Fortunately for the County most of its fire chiefs are members of the San Diego County Fire Chiefs Association. This association is unique among its kind. It has had the dubious distinction of having no constitution and by-laws, no treasurer, and (until recently) no treasury. Its members pay no dues or assessments, yet somehow it manages to keep solvent and to finance its monthly meetings and the

Battalion Chief Robert Ely, Superintendent of Maintenance, (kneeling) explains how water flows through a four-stage series parallel pump, to a group of San Diego County fire fighter students in San Diego Fire Department's shops. At Ely's left, Kenneth Fawcett, Coordinator of Trade and Technical Education, San Diego Junior College, and Deputy Chief Alton Penrose, S.D.F.D. (in uniform) follow explanation attentively—*Photo by McDowell, S.D.F.D.*

Fire science committee members are (left to right): Kenneth W. Fawcett, coordinator of trade and technical education, San Diego Junior College; Robert Boulton, San Diego training officer; Chiefs Ray Lyles, La Mesa, president, S. D. County Fire Chiefs Association; Cliff Bailey, National City; Ted Kohl, Coronado, committee secretary; Roi B. Woolley; Chiefs Bill Elder, Vista; L. R. McCullough, S. D. F. D. training officer, and Ward Ensley, Escondido, committee chairman. Fire Chief George Courser, S.D.F.D., who does not appear in the photo, is also a member

—*National City F. D. photo*

Class in firemanship training gets close-up view of power train assembly of apparatus. Chief Ely describes its operation. Mr. Fawcett and Chief Penrose look on in foreground—*Photo by McDowell, S.D.F.D.*



Battalion Chief Laurence Sheehan, personnel officer of the San Diego Fire Department, conducts class in "Fire Fighting Practices" for students from departments in southern San Diego County—*Photo by O'Hara, S.D.F.D.*

Deputy Fire Chief Alton Penrose, San Diego (center), studies proposed County fire science curricula for coming semester with County instructors (left to right) Ward Ensley, Escondido; Robert Ely, San Diego; Laurence Sheehan, San Diego, and James Fox, Rancho Santa Fe

—Photo by Lt. R. E. Blair, S.D.F.D.

perquisites required by the secretary, who obviously gives his services gratis. Educational subjects, guest speakers and lecturers are selected, like meeting places, as occasion dictates.

Although the organization has little ritual and less formality, there is no lack of enthusiasm and interest, particularly in the training and education of fire fighters. This interest, more than any other factor, led to the County's junior college progam which was launched with little fanfare, the middle of last September.

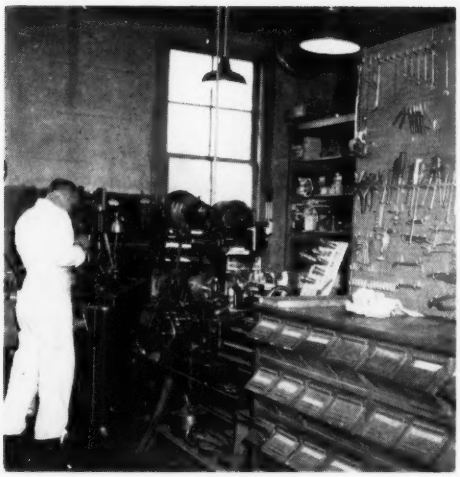
The Chiefs Association named a small group of its members to make a serious study of the entire county training problem and come up with recommendations. One of this group was Ward Ensley who had only recently been appointed chief of the Escondido Fire Department. Chief Ensley proved a happy selection to head this study because of his previous experience in state firemen's training. For a period of eight years Ensley had served as itinerent instructor on the state training staff. Most of his time was spent in southern California, with occasional visits to San Diego County. He was therefore well acquainted with the County training problem. Upon his shoulders fell much of the responsibility for conducting the training study and developing the resulting program.

Advisory committee named

The first step taken by the association, following the study, was to appoint a fire training advisory committee, consisting of: Chief Ward Ensley, Escondido, chairman; Chief Ray Lyles, La Mesa; Chief Cliff Bailey, National City; Chief Ted Kohl, Coronadá; Chief Bill Elder, Vista; Chief George Courser, San Diego; and Battalion Chief L. R. McCullough, San Diego. This committee was empowered to negotiate with the respective colleges in the northern and southern areas of the County, once it was decided that what the County's fire service wanted were junior college courses.

The determination to select junior colleges for the County's educational effort was based upon the experiences of California fire fighters in other areas where universities have cooperated in fire training programs. With the experiences of such academic authorities as Harbour Junior College (Long Beach) and Contra Costa Junior District College to guide it, the San Diego Advisory Committee was able to enlist the cooperation of the two leading junior colleges in the County, even though neither of them

Continued on page 1153



A section of the Tacoma Fire Department's well-equipped shop, the vital hub of the preventive maintenance program—*Tacoma F. D. photos*

Fire department mechanic makes repairs to one of Tacoma's aerial ladder trucks

Chief's car goes through safety check. Constant maintenance of vehicles makes for quicker and safer response to alarms

"An Ounce of Prevention" Pays Off in Apparatus Maintenance

By CHIEF HAROLD C. FISK

Tacoma, Wash.

A SOUND preventive maintenance program for fire apparatus pays off, not only in dollars and cents savings to the department, but helps to keep the apparatus rolling. Since the inception of our preventive maintenance program, breakdowns or failure to start due to mechanical trouble have been cut 90 to 95 per cent.

The Tacoma Fire Department operates a fleet of 13 passenger-type vehicles, five commercial-type trucks and 26 pieces of fire equipment, all covered by the maintenance program.

All major service and repair work is done in our shop, an area of about 2,500 square feet in the basement of Station 2. The mechanical force consists of the fire equipment mechanic and one mechanic helper. The master mechanic is responsible for scheduling the work and getting the vehicle back in service as soon as possible. Costs are watched and kept down by reconditioning usable parts for use as spares.

The maintenance program is quite comprehensive in its scope, but the key points in the system include the keeping of accurate records and study and analysis of the apparatus reports. An individual record card is made for each vehicle upon its delivery to the department. This card shows make, model, serial number, cost, assignment, tire make and serial number, make of battery and like equipment. Costs of all repairs, replacements or equipment added are also shown on this card. The mileage at the time of oil changes and grease jobs is also noted.

All vehicles owned by the City of Tacoma are numbered with a decal. The first numeral indicates the department to which the vehicle is assigned. The second digit of the sequence denotes whether it is a passenger-type vehicle or a truck. The third number of the series is that assigned by the chief to that particular vehicle. Our assigned department is 9; a passenger vehicle is 1, and a truck is 2. Thus, for example, the chief's car bears the number 9-1-188 and the master me-

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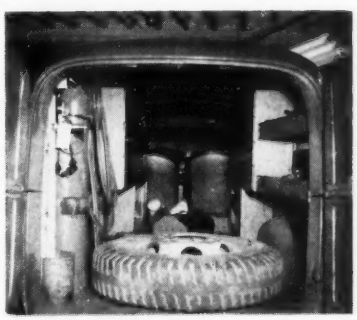


Tacoma maintains a service truck for emergency repairs. The department's maintenance program merited national maintenance efficiency award

Fire Protection for the Winter Olympics

By CLIFF DEKTAR

WHEN THE WINTER OLYMPIC GAMES take place from February 18 to 28, 1960, near Lake Tahoe in the Sierra Nevada mountains of California, contestants, spectators and installations will be well protected against fire. In fact, the California Division of Forestry is already providing fire protection for the Winter Olympic Games Village and the wildlands in the Squaw Valley drainage. There are approximately 35 structures in the area with a valuation in excess of $12 million.

CDF, under a contractual agreement with the Winter Olympic Organizing Committee and Commission, has established a fire department at the Olympic Village and will provide protection through June 30, 1960. At that time the village will be turned over to the State Park Commission.

The fire unit is headed by Associate Ranger Richard Groninger and Assistant Ranger Orville Ingram who are chief and assistant chief respectively. There are five fire truck drivers and three foremen in the unit. The foremen act as company captains. Backing them up are 15 Olympic Committee employees and eight volunteers from the residential tract within the valley.

Apparatus assigned includes two California Disaster Office 1,000-gpm pumpers, one four-wheel-drive jeep patrol unit, one CDF four-wheel-drive patrol unit, one CDF pickup patrol, and a sedan. During the summer season a CDF four-wheel-drive pumper replaces one of the CD pumpers.

A large percentage of the time of the fire personnel is spent on patrol duty in and around the buildings and of the adjacent watershed lands. Patrols of all Olympic facilities are made three times a day. During the summer, weekly checks of the hydrants are made and in the winter, inspection is intensified to a daily check.

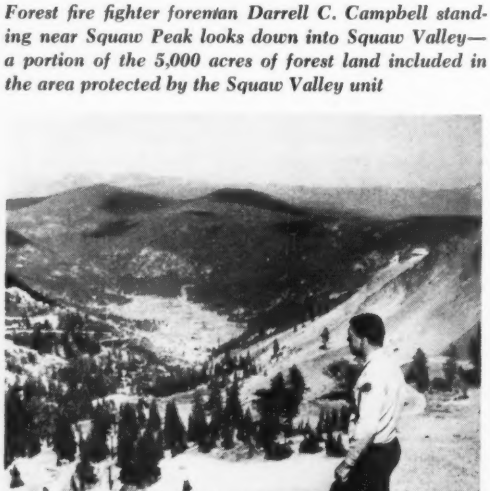
Six manual fire alarm boxes are located in the halls of each of the three-story dormitories which will house participants and other personnel during the games. In addition, 14 fire and emergency telephones and alarms are connected to a fire station switchboard. During the week, the Olympic Committee provides a civilian operator at the board, while at night and on week ends, CDF personnel man the board. The CDF Squaw Valley unit is tied in with mutual aid agreements with the Tahoe City and Truckee Fire Departments.

Squaw Valley is located 200 miles east of San Francisco and 40 miles from Reno, Nev., in the Sierra Nevada Mountains. More than 30,000 people a day are expected to jam into the area for the games. □□

Administrative and fire fighting equipment assigned to the Squaw Valley unit of the CDF

Associate Ranger R. A. Groninger, in charge of the fire equipment and personnel assigned to Squaw Valley, watches as switchboard operator Daryl Rub answers a call from one of the emergency telephones located throughout Olympic Village buildings. The emergency switchboard in the firehouse connects 14 emergency and fire telephones and receives signals from box alarms in the dormitories

Forest fire fighter foreman Darrell C. Campbell standing near Squaw Peak looks down into Squaw Valley—a portion of the 5,000 acres of forest land included in the area protected by the Squaw Valley unit



Salvage Pays Its Own Way

By **WILLIAM H. GARDNER**

Chief Gardner retired as head of the Kansas City Patrols at the time of consolidation with the fire department. He spent 45 years in the fire service, the last 27 as chief of patrols. He is a past president, Missouri Valley Association of Fire Chiefs and a life member of the International Association of Fire Chiefs.

EVERY MAYOR, fire commissioner and fire chief should take note of an editorial in the May 1959 issue of FIRE ENGINEERING entitled "Industrial Fire Losses—Everybody's Business." It states that 40 per cent of all businesses which suffer major fires never open their doors again. In addition, nearly three-quarters of those that do reopen will fail in a few short years. Many fire officers can recall experiences where these facts have been borne out and the hardships to the community which inevitably followed.

Salvage operations in large industrial plants should not be overlooked by fire chiefs. If this work is not performed, only the citizens are the losers, because higher fire losses are the result. The objective of every fire chief is to keep the fire loss in his city to a minimum, and by making salvage operations a function of the fire department, much will be accomplished in helping to keep these losses at a low ebb.

Fundamentally, salvage work is a function of the fire department. It is just as important for the fire department to save property by preventing water damage, as it is to save property by preventing its being involved by fire. This conclusion is now generally appreciated in fire circles, with the result that salvage work is gaining in popularity in fire departments throughout the country. For example, the Los Angeles Fire Department organized two salvage companies in February 1924, and has steadily increased salvage operations up to the present date.

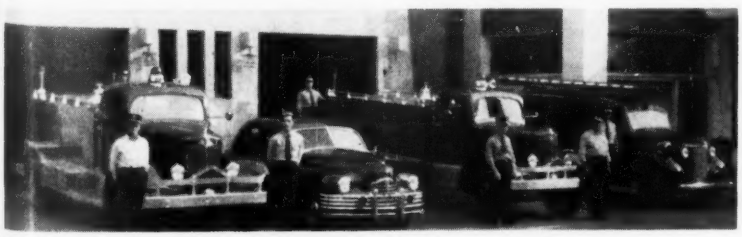
For 53 years the Kansas City Fire Patrol, supported entirely by the insurance companies doing business in Kansas City, Mo., performed salvage work in high-value districts downtown, and responded to the isolated high-value areas that embraced business structures and large apartments and hotels in the south portion of the city. The savings to business firms and homes through the patrol's efforts is incalculable.

Large industrial and business firms became accustomed to salvage protection during fires. When the board of directors of the Underwriters' Fire Patrol, Inc. informed the city manager that the patrol would cease operations on January 1, 1957, the local businessmen requested of the city officials that salvage operations and services be made a function of the fire department.

The patrol offered the equipment, apparatus, station and land to the city for one dollar. The offer was accepted, effective on January 1, 1957. Five patrolmen over the age of 65 years were pensioned by the patrol. Others desiring to become fire fighters were added to the city fire department roster for assignment. The value of the land, building, apparatus, tarpaulins, gas masks, light generators, tools and appliances amounted to approximately $90,000.

On January 1, 1957 at midnight, the unit's equipment was turned over to Chief Edgar M. Grass of the fire department, together with legal possession of the patrol's headquarters at 1019 Cherry Street. Pumper Company No. 10 was placed in service immediately in this station along with the salvage trucks.

Patrol headquarters is now No. 10 fire station and houses an aerial, pumper, salvage trucks and a battalion chief's car. Chief Grass ordered some of the salvage equipment moved to the fire department headquarters. He intends to establish two squad trucks in the department which will assume the duties formerly handled by the insurance patrols. The fire department has made good use of the salvage trucks, equipment and men since the consolidation took effect. The headquarters building has proved a big asset to the department because it is only four blocks east of the downtown loop district.



As No. 10 station of the Kansas City Fire Department, the former headquarters of the Fire Patrol serves as an ideal location for a downtown high-value company

New York Holds Fire Prevention Conference

The Second Annual Governor's Fire Prevention Conference, jointly sponsored by the New York State Division of Safety and the International Association of Fire Chiefs was held September 24 in Albany, N. Y. The conference met in Chancellor's Hall, State Department of Education Building. J. Palmer Harcourt, chairman of the Governor's Fire Advisory Board, introduced Governor Nelson A. Rockefeller who welcomed the more than 400 fire service officials from every part of the state. He stressed the importance of fire prevention to the economic growth of the state and job opportunities for its citizens.

Following remarks by Safety Director Walter E. Bligh, the morning session, a forum devoted to fire prevention and fire service problems on a national basis, began under the chairmanship of Donald M. O'Brien, editor of FIRE ENGINEERING. The participants included Deputy Safety Director George H. Proper, Jr.; Chief Edward F. Deignan, Elizabeth, N. J., second vice president, I.A.F.C.; James E. Blowers, assistant manager, New York Fire Insurance Rating Organization; Percy Bugbee, manager, National Fire Protection Association; Addison Mallery, executive secretary, New York Conference of Mayors, and Edward Uthe, former secretary, Association of Towns, New York State.

A panel discussion of "New York State Fire Service Problems" opened the afternoon session under Moderator Roswell L. Pooler, chief, Bureau of Fire, Division of Safety. Participants included Wilfred Parsons, president, County Fire Coordinator's Association; Dr. John Marvin, president, Firemen's Association of the State of New York; and Fire Marshal Peter Lynch, president, New York State Association of Fire Chiefs. Chief Henry Thomas, National Board of Fire Underwriters, followed with a discussion of a fire prevention program recommended for local communities. General Chairman Alex Schultz, Suffolk County coordinator, then brought the meeting to a close with a summary of the proceedings.

September Fire Losses

Estimated fire losses in the United States during September amounted to $83,027,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $83,027,000 loss represents an increase of 13.3 per cent from losses of $73,303,000 reported for September 1958, and an increase of 11.2 per cent losses of $74,660,000 for August 1959.

Losses for the first nine months of 1959 now total $800,887,000, a decrease of 1.2 per cent from the first nine months of 1958, when they amounted to $810,811,000.

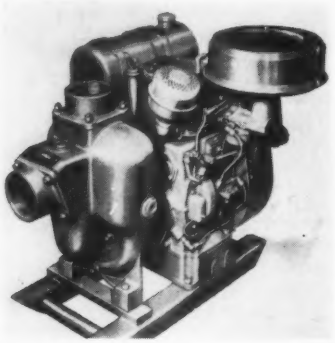
These estimated losses include an allowance for uninsured and unreported losses.

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

High Altitude Portable



Marine Products Company, 600 Lycaste Avenue, Detroit 14, Mich., has introduced the "High'r Pow'r" Flomax portable centrifugal pump. Said to be designed expressly for pumping water at high altitudes, or fluids of higher specific gravity at lower elevations. It is rated at 15,900 GPH at pressures up to 40 psi.

First American LaFrance "Little Mo" Put in Service

"Little Mo," described as the first small fire fighting truck with big truck features, ever to be made by American-LaFrance, Elmira, N. Y., was recently put in service by the New York State Power Authority. Designed to be operated by one man, it is said to be especially practical for smaller communities or airports, as a trouble-shooter for larger cities, for race tracks, stadia, public recreation areas and super highways.

The turret nozzle atop the cab is controlled from the driver's seat, and can be operated when the truck is in motion. In-cab controls allow for straight stream, fog-straight stream, foam-fog or fog combined with wetting agent. Two ground sweep nozzles discharge water, air foam or wetting agent, as do two 150-foot hand lines on each side of the truck. The truck is equipped with a 200-gallon water tank, with separate neoprene compartments for air foam liquid and wetting agent, which are said to be automatically proportioned. The truck is also equipped with a Hale 2CBP two-stage, high-pressure centrifugal booster pump, driven from a full torque power take-off.

New Rescue Vehicle

Divco-Wayne Corp., Richmond, Ind., has introduced a forward-control van-type vehicle designed for rescue and disaster service. It is claimed the unit will

hold 12 men or five stretchers. Cabinet space of over 120 cubic feet capacity is provided for additional equipment storage. It has a 130-inch wheelbase, a gross vehicle weight rating of 14,000 pounds and standard power of 114 hp.

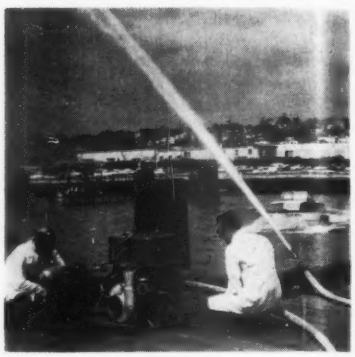
Aluminum Life Belt Hook

Atlas Safety Equipment Co., Inc., 173-179 North 10th Street, Brooklyn 11, N. Y., has developed lightweight aluminum pompier hooks for its Series 280, 283 and 284 life belts. The new hooks are said to weigh 1½ pounds, as compared to the heavier 3½-pound steel hook used in the past. It is claimed the new hook has a greater load capacity. It was also announced that aluminum hooks will now be used exclusively on all Atlas hose and ladder straps.

Fire-End Buys Croker

Fire-End Products Co., 656 Gerard Avenue, New York 51, N. Y., has purchased the 44-year-old Croker Fire Prevention Corp., according to an announcement by Anthony J. Sposato, general manager. The Croker concern, founded by the late New York Fire Chief Edward F. Croker, supplies fire protection equipment to commercial construction. It will be operated as a division of the Fire-End Company.

Navy Orders Turbine Pumps

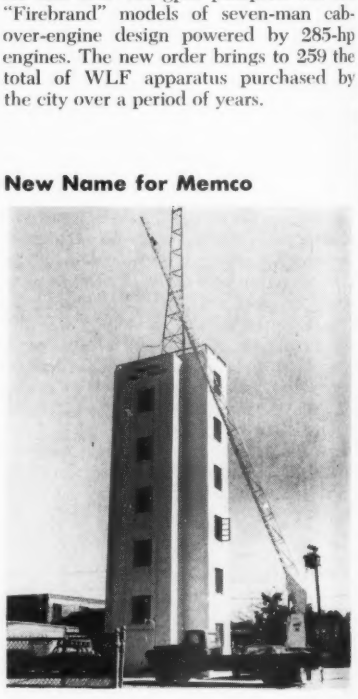


Solar Aircraft Company, 2200 Pacific Highway, San Diego 12, Calif., has received recent orders from the U. S. Navy for 80 Mars gas turbine pumper units delivering 500 gpm at 100 psi for general fleet use. Designed for shipboard fire fighting, this is said to be the first order for other than special use.

Ward LaFrance Wins FDNY Bid

The New York City Department of Purchase has placed an order for 16 fire engines with the Ward LaFrance Truck Corp., Elmira Heights, N. Y. The company will supply the New York Fire Department with twelve 1,000-gpm pumpers and four 750-gpm pumpers. All are "Firebrand" models of seven-man cab-over-engine design powered by 285-hp engines. The new order brings to 259 the total of WLF apparatus purchased by the city over a period of years.

New Name for Memco



The Memco Ladder Division, Sponhaltz Enterprises, Inc., 1007 N. W. 36th Street, Oklahoma City 18, Okla., has announced its all-steel aerial ladders available up to 75 feet in length and will be known as the "Sponco" aerial ladder.

Continued on page 1168

AKRON'S TOUGHER
FORGED COUPLINGS

Tapered hose bowl grips like a vise!

The hose will blow before the coupling will go!

Drop-forged under the tremendous force of hydraulic presses, Akron Rocker-Ring and Forgex couplings give you greater density, strength and toughness . . . the trouble-free service you're looking for.

Two models for you: the lightweight, three-lug Forgex, and the heavy-duty two-lug Rocker-Ring ...both guaranteed to give you complete satisfaction.

- Brass—reinforced with manganese—drop-forged
- Rocker-Ring for added protection to threads and swivel—for added strength in the hose bowls
- Tapered hose bowl holds hose in vise-like grip—no slipping at any pressure
- High pressure—the hose will blow before the coupling will go
- Threads—any 2½" and 1½" threads
- Hose—fit all fire hose
- Higbee thread and indicators
- Underwriter's listed

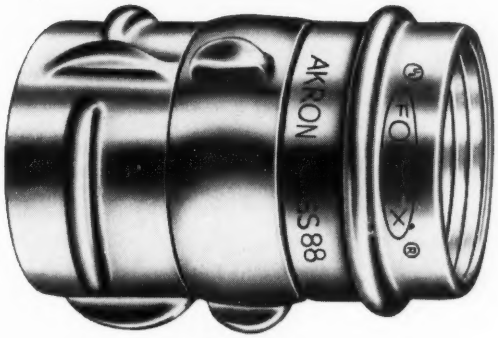
STYLE 88 — FORGEX® ROCKER-RING 3-Lug Coupling. Forgex comes in the smaller hose bowl sizes, perfectly tailored for the new lightweight hoses. A lightweight, tough, three-lug, drop-forged coupling for use on all 1½" or 2½" fire hose—dacron or cotton—any thread. Satin finish. Brass with manganese.

STYLE 92 — ROCKER-RING® 2-Lug Coupling. The heavy-duty drop-forged coupling for departments that want the best where service is the toughest. Satin finish. Brass with manganese.

Style	Size	Rockerlugs	Length	Weight Lbs.
88	1½"	3	4½"	2⅜
88	2½"	3	5⅜"	4½
92	1½"	2	4½"	2¾
92	2½"	2	5¾"	6⅞

See New Akron Brass Catalog 60—Page 62

FORGEX®



Style 88

ROCKER-RING®

Style 92

AKRON BRASS
FIRE FIGHTING EQUIPMENT

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO
AKRON MFG. (CANADA), LTD.
AYLMER, ONTARIO

SPECIFY AKRON BRASS—FOR BETTER FIRE FIGHTING EQUIPMENT

FALSE ALARMS

Correction

The owner of a small store whose premises had burned, met a friend, and he proceeded to relate his harrowing experience:

"A terrible affair! I am ruined! I just stood there helpless, watching it burn. My face got white, white—white as your shirt."

Then looking at his friend's shirt, he added, "Whiter."

Two dispatchers were discussing a prize fight which had appeared on TV the previous evening. "What did you think of the fight?" asked one.

"Fight," scoffed the other "why, if me and the missus would put on a bout like that on Saturday nights, the kids would boo us!"

Logical Retort

"I can't eat this garbage," exclaimed the firehouse gourmet as he pushed back his plate, "call the captain!"

"It's no use," replied the shift cook sympathetically. "He won't eat it either."

The family had overslept. Mrs. Jones woke with a start to the clanking of cans in the street. She remembered that the garbage had not been put out and raced down to the front door, struggling into a robe. Her hair was in curlers, and she looked and felt half awake.

"Yoo hoo," she called. "Am I too late for the garbage?"

"No," shouted the collector. "Jump right in."

A man telephoned a pet shop and said, "I'd like to place an order for 25,000 cockroaches." "What in the world do you want with that many cockroaches?" exclaimed the clerk. "Well, I'm moving tomorrow," explained the man, "and my lease says that I must leave the premises in exactly the same condition I found them."

The Old Timer was having difficulty with his cigarette lighter so he asked a passing lady for a match.

"Why you drunken beast!" exploded the accosted dowager, "you don't need a match. You're lit up like a Christmas tree already. If I were in your condition I'd shoot myself."

The Old Timer, somewhat taken back by the tirade answered, "Yesh, an' if you wush in my condishun, you'd mish!"

Two plump ladies were demolishing the last fragments of salad in a dietetic lunch when one discovered a small green leg in her lettuce. "Oh heavens, I must have eaten the rest of the creature!"

Her companion examined the offending limb for a moment and then said reassuringly, "I wouldn't worry, dear Anything that small couldn't have had many calories!"

Kinkchaser was visiting his friend in the hospital. He took the lovely young nurse aside and asked her, "Tell me the truth about old Tom, is he making any progress?"

"None at all," snapped the nurse, "he's not my type."

"Don't miss this! Seems like our white glove inspection party circled back to their own rig by mistake"

Everybody Came

A small community with a volunteer fire department had difficulty in meeting department expenses. Dances were held to raise funds, and even the women's groups cooperated. The following news item appeared in the local paper:

"The ladies of the church have cast off clothing of all kinds. They may be seen in the basement of the church any afternoon this week."

An author and a friend were heatedly discussing a new book and found themselves at some variance as to its merits. "There's no use in your talking, Bill," said the author finally. "You never wrote a book yourself, so of course, you can't appreciate the fine points of one." "Oh, I don't know," retorted Bill. "I never laid an egg myself, but I can spot a bad one quicker than any hen in the country."

Framed

Sourpuss and his wife were looking over an art exhibit. "Ugh!" cried the grouch in disgust, pausing before an ornate frame and squinting critically. "That is without doubt the ugliest portrait I've ever seen."

"Come along you old fool" urged his wife, pulling his sleeve. "That's a mirror!"

The young lady's rather eccentric boy friend did not like the way her kid brother acted in his presence and complained to her about it.

"So you finally told your brother to stop mimicking me," said the young man one evening. "Just how did you approach him on the subject?"

"Oh, there was nothing to it." replied the girl. "I simply told him to quit acting like a moron."

Plug Wrench's wife was walking a very handsome hunting dog when she met a friend. "Look at the swell dog I got for my husband," she remarked.

"Gosh," was the other's terse reply, "you have all the luck. Wish I could make a trade like that!

Scotch Proverb

Don't marry for money; you can borrow it cheaper.

Pete, the probie, says: "I call my girl 'Baseball' because she won't play without a diamond."

One girl in our office says that she will be so old by the time she gets married, she's afraid that, instead of throwing rice, the guests will throw vitamin pills.

Just how much better is

EUREKA
Multiple-Woven
than ordinary Fire Hose?

EUREKA's exclusive *multiple-weaving* process, employing filler cords of "Dacron"*, produces top-quality fire hose with these outstanding advantages:

- 50% stronger—withstands 600 pounds pressure,
- Weighs one-third less,
- More flexible—handles easier,
- Takes 33% less space,
- Permits more hose to be carried,
- Dries more quickly,
- Provides maximum safe service life,
- Affords no space between jacket plies to collect dirt and water,
- Smooth-interior ply assures highest nozzle pressure.

Long-time users of Eureka Multiple-Woven hose know that the secret of true economy lies in buying the *finest* . . . not the cheapest!

*Du Pont's polyester fiber

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Rubber-Lined Fire Hose

1 Market Street • Passaic, New Jersey

Division of **United States Rubber**

Among the Buffs

By Paul C. Ditzel

SHORTLY AFTER FIRE ENGINEERING received a subscription from Larry Gaddis, a letter went out to him inquiring about his special interests because the magazine is interested in such things so that editorial and advertising content may be tailored accordingly. The reply came back from Larry's mother, Mrs. Leroy J. Gaddis of 2014 Henry Road, Rockville, Md., and for the first time Editor Don O'Brien and Assistant Editor Frank Hanifin realized another buff had been added to the clan.

"I must tell you about him," says Mrs. Gaddis, speaking of her 14-year-old son's ambitious nature. "Larry had gradually become quite a well-known member of this community," she reports. "He is very interested in fire fighting equipment and all that goes with it. He met the various firemen of the Rockville Volunteer Fire Department and has become well acquainted with them, helping the men in cleanup chores, running errands for them, and helping wash and wind up the hoses after fires.

"Larry has his own fire department—Company 22—and the firemen actually credited Company 22 with the fire they put out in grass along the railroad track on the official fire report."

Mrs. Gaddis says her son has been mowing "many, many lawns this summer" and out of his earnings bought a fire radio, helmet (which he had tailor-made) raincoat and boots. "Larry and his father have just about completed a fire engine, using an old lawn mower for a motor. He has made quite a few rakes, instrument board, hose reel, etc., from scraps of metal."

Mrs. Gaddis says she hopes to have her other children (she has four boys who are officers in Company 22) ride the fire engine in parades. Larry's hobby also provides for his making fire reports and otherwise duplicating the activities of the local b'hoys, only on a miniature scale.

Mrs. Gaddis said her son's hobby has become "quite constructive and will perhaps grow into his future occupation. All of the smaller children in the neighborhood look up to him and I believe it is a very good thing." Larry, it seems, is headed for a full-time career as a professional fireman.

That traveling fire buff, Tom Jewett, Jr., of Kansas City, is off to see what lies beyond the mountains again. Several recent postal cards show he visited the Washington Fire Co. No. 1 in Conshohocken, Pa. That's the organization, of course, that prides itself on chrome yellow apparatus. Picture postal cards showing the apparatus are available from the fire department. Profits from their sale are used to support operation of the organization's rescue squad (also shown on the card).

Tom Jewett also visited the Philadelphia Fire Department as guest of Chief George E. Hink. Reports Tom: "Spent yesterday afternoon with Chief Hink and all today seeing his department. A very fine and up-to-date outfit and very wonderful to me. Have now visited with New York City and Boston. Everything OK with us and having a good time. Back home in a couple of weeks."

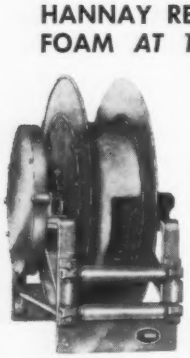
Buff Perry O. Popp, 932 Monroe Avenue, Rochester 20, N. Y., reports that after a note in this column in August relative to the Cleveland, Ohio, Harringtons, that demon fire buff, Carl R. Fridley of 1944 East 66th Street, Cleveland 3, contacted them. Carl took the Harringtons on a tour of the Cleveland stations in his car which was equipped with a Gonset receiver for all alarms. Carl then turned over his collection of scrapbooks to them for further background on this energetic department, reports Perry.

Guest speaker at the October 15–16 meeting of the Box 1776 Association of the Philadelphia Fire Department was that active fire fan, Chaplain (Maj.) Norris T. Morton, staff chaplain. Chaplain Morton was recently awarded an honorary membership in the Philadelphia Fire Department by Fire Commissioner Frank L. McNamee. The chaplain left later to address the Pennsylvania business and professional men of the association.

Officers of the 1776 Association which hosted this 13th annual Fire Prevention

SPECIFY
HANNAY
for plant fire protection

HANNAY REELS PROVIDE WATER, CHEMICAL OR FOAM *AT THE NOZZLE* FOR INSTANT ACTION



From standard fire trucks to portable carts and stationary reels, Hannay offers a complete range of hose reels for industrial fire protection. Hand, spring and electric rewind power in standard or custom built models. Hannay reels are designed and built by active firemen. Specify hose reels by HANNAY.

NEW spring retractable reel for stationary or mobile mounting, provides positive rewind power. Send for complete literature.

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Week banquet at Verdi's included Edward M. Dietsch, president; Ernest L. Dreeman, vice president; Ernest L. Dreeman, Jr., secretary; and Francis R. Nickson, treasurer.

The Box 1776 Association is nonpolitical, nonsectarian, and nonprofit. It is composed of business and professional men who promote the exchange of ideas on fire prevention and fire extinguishment. No member of a municipal department is eligible for active membership.

The purpose of the group is "to bring constantly to the attention of all citizens the vital importance of avoiding fire and of maintaining Philadelphia's fire fighting equipment, facilities, and personnel at maximum efficiency." The organization takes as its creed the now-famous quotation by Benjamin Franklin: "We agreed to meet once a month and spend a social evening communicating such ideas as occurred to us upon the subject of fires."

Please continue to send your club notes, anecdotes, reports, and news clippings to me at 4234 Don Diablo Drive, Los Angeles 8, Calif. □□

Paine AFB Wins Top Spot In Air Force Fire Contest

Paine Air Force Base, Everett, Wash., was recently awarded top honors in the Air Force-sponsored Annual Fire Protection Achievements Competition. USAF installations world-wide compete each year in the contest designed to promote and recognize the results achieved by each base in developing and maintaining sustained excellence in all phases of a year-round fire protection program.

In second place is Biggs AFB, El Paso, Tex., with Bitburg Air Base, Germany, placing third. Other installations selected for Exceptional Honorable Mention in the final judging included Tinker AFB, Oklahoma City, Okla.; Hickam AFB, Hawaii; and McChord AFB, Washington.

Final selections were made in Headquarters USAF from a group of 34 outstanding entries nominated by 13 of the major Air Force operating commands. Each command is entitled to nominate up to three of its outstanding installations for the competition. Entrants are judged on all phases of fire protection engineering applications, fire prevention promotion, and actual fire fighting, including on-the-ground aircraft fire fighting and related rescue operations. The current award is based upon sustained performance during the fiscal year, July 1, 1958–June 30, 1959.

Los Angeles Boosts Chief's Salary

The Los Angeles City Council recently voted $1,100 annual pay increases to the fire and police chiefs, while refusing similar increases to other municipal department heads. The salaries of Fire Chief William L. Miller and Police Chief William H. Parker will now become $20,600 annually.

Roi B. Woolley

CHIEF

THIS IS FOR YOU!

The Scott Sling-Pak
Speeds up Inspection
Speeds up Plan of Attack

- *On in Seconds*
- *Light and Comfortable*
- *Cool Fresh Air—No Chemicals*

Sling-Pak Model 6000-B4A

Chief, this is your personal Air-Pak! It has been designed especially for you. Modern fire-fighting calls for fire attack. This means you must get inside quickly to determine your plan of action.

The lightweight Scott Sling-Pak can be donned in seconds. It gives you a minimum of 15 minutes of breathing protection at extreme exertion. The Scottoramic mask gives you unlimited vision in all directions to help you appraise the situation quickly and make your decisions. Chief, if you haven't tried a Scott Sling-Pak, your nearest Scott Distributor will be glad to show one to you. Use it once and you'll wonder how you ever got along without it.

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Write for literature and location of nearest Scott Distributor.

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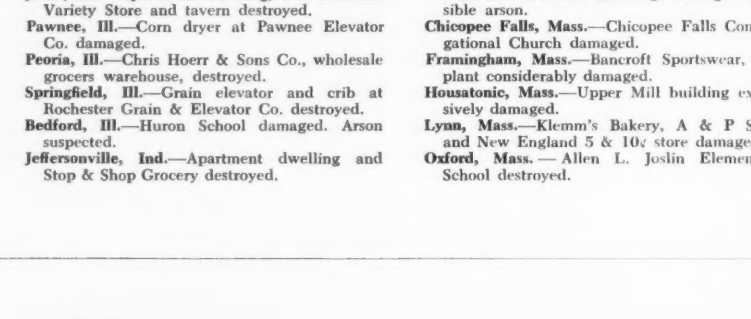
What's Burning

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from October 19th to November 19th.

Birmingham, Ala.—W. D. Dickey Clay Mfg. Co. main building destroyed. Electric welder.
Frisco City, Ala.—Frisco Textiles Inc. plant damaged.
Homer, Alaska—Fountain of World destroyed.
Arkansas City, Ark. — Seventy-three-year-old bank-business apartment building destroyed.
Jonesboro, Ark.—Schuptown Gin Co. destroyed.
Angles Camp, Calif.—Bonnie Brook Restaurant destroyed. Faulty wiring.
Antioch, Calif.—Bar and restaurant at Antioch Bridge Marine Yacht Harbor damaged.
Compton, Calif.—Crown Pipe & Supply Co., wholesale plumbing firm, damaged.
Fremont, Calif.—F. E. Booth Co. cannery destroyed.
Los Angeles, Calif.—Art Pillow Co. and adjoining garage considerably damaged.
Los Angeles, Calif.—Luggage factory at 417 Wall Street South, considerably damaged.
Malibu, Calif.—Guest house and garage at Myron J. Stuart ranch, destroyed; dwelling of John Lighty and Hughes Aircraft Experimental Laboratory damaged. Electrical transformer explosion.
Oakland, Calif.—East Bay Sanitary Bag Works damaged.
Oakland, Calif.—Ebell Hall destroyed.
Palo Alto, Calif.—Amarillo Apartments damaged.
Palo Alto, Calif.—Apartment dwelling at 2476 High Street destroyed. Gas wall heater.
San Francisco, Calif.—H. Plath & Sons Nursery damaged.
San Francisco, Calif. — Multiple dwellings bounded by Geary, Pierce, Steiner and Endicott Streets, destroyed. Arson.
San Francisco, Calif.—Pacific Diamond H Bag Co. warehouses destroyed.
Saugus, Calif.—Huntsinger Turkey Ranch processing plant, with 40,000 prepared turkeys, damaged.
Soquel, Calif.—United Frozen Foods plant destroyed.
Suisun, Calif.—Southern Pacific Railroad roundhouse, used as warehouse, destroyed.
Cheshire, Conn.—Chip-Wich Caterers in former railroad station building destroyed.
Waterford, Conn. — Wayside Furniture Co. warehouse destroyed.
Atlanta, Ga.—Lawrence-Myers-Dickson Co. furniture warehouse heavily damaged.
Aurora, Ill.—Atlantic & Pacific Tea Co. supermarket damaged.
Carlinville, Ill.—Robertson Hall, on Blackburn College campus, destroyed.
Centralia, Ill.—Highway 51 Club, night spot, destroyed.
Effingham, Ill.—Farm buildings and 34 milking cows on Raymond Deters farm destroyed.
Eldorado, Ill.—Wasson Lumber Yard destroyed. Coal stove explosion.
Joliet, Ill.—Apartment dwelling, Ben Franklin Variety Store and tavern destroyed.
Pawnee, Ill.—Corn dryer at Pawnee Elevator Co. damaged.
Peoria, Ill.—Chris Hoerr & Sons Co., wholesale grocers warehouse, destroyed.
Springfield, Ill.—Grain elevator and crib at Rochester Grain & Elevator Co. destroyed.
Bedford, Ill.—Huron School damaged. Arson suspected.
Jeffersonville, Ind.—Apartment dwelling and Stop & Shop Grocery destroyed.
Mishawaka, Ind.—Ball plant test laboratory of U. S. Rubber Co. severely damaged.
Cedar Falls, Iowa—Cedar Falls Congregational Church damaged.
Northwood, Iowa—Building housing Gamble Store destroyed; two adjoining buildings damaged.
Wyoming, Iowa—Fishwild General Store, Morris Appliance Store, Colonial Cafe and apartments in three buildings destroyed.
Harrodsburg, Ky.—Three tobacco warehouses destroyed. Truck's gasoline tank exploded.
Louisville, Ky. — Charles Hutchinson & Son Wholesale Auto Parts building damaged.
Louisville, Ky.—Grieb Printing Co. damaged.
Louisville, Ky.—Krotzki Fruit & Vegetable Market considerably damaged.
Louisville, Ky.—Maroff's Meat Market and Miss Joseph's adjoining produce store, damaged.
Ludlow, Ky.—Duro Paper Bag Mfg. Co. damaged. Arson suspected.
Ludlow, Ky.—First Presbyterian Church damaged. Arson suspected.
New Orleans, La.—Empire Menhaden Co., Inc. fish packing warehouse damaged.
Scarborough, Me. — United Hotel Equipment Co. and Sam's Shopping Center destroyed.
South Berwick, Me.—Warehouse owned by Axton-Cross Chemical Co. destroyed.
Brooklyn Park, Md. — Former grade school building destroyed.
Avon, Mass.—Poultry processing plant of Eastern States' Farmers Exchange damaged. Possible arson.
Chicopee Falls, Mass.—Chicopee Falls Congregational Church damaged.
Framingham, Mass.—Bancroft Sportswear, Inc. plant considerably damaged.
Housatonic, Mass.—Upper Mill building extensively damaged.
Lynn, Mass.—Klemm's Bakery, A & P Store and New England 5 & 10¢ store damaged.
Oxford, Mass. — Allen L. Joslin Elementary School destroyed.

The HOWE pumper pictured here was manufactured for the community of Carmel, Ind., and will provide adequate, powerful, effective, yet ECONOMICAL, fire protection for that area.
It is a 750 gallon pumper, with a 750 gallon booster tank; has 7 large compartments (4 side, 3 rear) for storage of portable pumps, generators, miscellaneous equipment, coats, etc. Equipped with fully Electro-Matic Waterous Pump, it also has electrically controlled hose reels, and the reel and pump are enclosed in heated compartment to prevent freezing.



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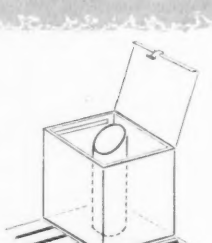
Another FIRST for HOWE! New combination filler, vent, and overflow for Booster Tank . . . . weaving of truck will not cause spill . . . . vented to prevent over-filling or tank bulge due to filling with excessive pressure from hydrant or pump . . . . surge chamber will collect water which would normally overflow during acceleration or deceleration of truck and will return water to tank.
Let HOWE fire apparatus protect you!



'dependable fire apparatus since 1872'

HOWE

HOWE FIRE APPARATUS COMPANY
Dept. FE-129, 1400 W. 22nd St., Anderson, Ind., U.S.A.

Somerville, Mass.—Handy Card & Paper Co. storehouse heavily damaged.
Worcester, Mass.—Former Kane Furniture Store building damaged.
Bay City, Mich.—Viola Verellen Elementary School, under construction, damaged. Suspicious origin.
Blissfield, Mich.—Blissfield Mfg. Company refrigeration equipment plant damaged.
Detroit, Mich.—Clubhouse at Plumb Hollow Golf Club destroyed.
East Lansing, Mich.—Michigan State University Kandzie Chemical Laboratory building damaged. Explosion.
Flint, Mich.—Richard Theater damaged.
Fruitport, Mich.—Oliver's Shoprite Market destroyed.
Hawks, Mich.—Merlin Pardike general store and apartment destroyed.
Imlay City, Mich.—Four barns on Roy Swoish farm destroyed.
Marquette, Mich.—Hotel Northland damaged. Cracked main caused gas leak.
Ostego, Mich.—Mills & Moll's Restaurant and adjacent Guy Rabideaux & Son heating store damaged.
Petoskey, Mich.—Martin's Fruit Market and dwelling damaged.
Festus, Mo.—Building housing Rechter Department Store, Sweep Shop and St. Clair Beauty Shop, destroyed; adjoining building and one across the street damaged.
Nevada, Mo.—Thorpe Appliance Co., Ellis Furniture Co. and Shanks & Sterrett Clothing Co. destroyed.
Butte, Mont.—Television Transmitter atop continental divide, feeding television network programs to Montana, considerably damaged.
Dover, N. H.—Locust Street business block, housing Dowability Cleaners, New Hampshire Cash & Carry, Kimball Sign Co., Dover Recreation Center and Lipson Fruit Co., damaged.
Dover, N. J.—Rockaway Sales Co. and warehouse destroyed.
Hoboken, N. J.—Factory building, housing Roart Co. plastics firm and Rego Insulated Wire Co., heavily damaged.
Parsippany, N. J.—Ailanthus Hall, 119-year-old, 50-room abandoned mansion destroyed.
Penns Grove, N. J.—Salem County Coach Co. garage destroyed.
Perth Amboy, N. J.—Hillel Academy Hebrew Day School damaged. Explosion.
Princeton, N. J.—"Hillcrest Estate" dwelling of Thomas Henry Morgan damaged.
Union City, N. J.—Loft building, housing Union Food Market and Yarntex, Inc., textile firm, considerably damaged.
Austerlitz, N. Y.—Twenty-room mansion of Harry Shultz destroyed.
Averill Park, N. Y.—Averill Park Methodist Church destroyed.
Ballston Spa, N. Y.—Prototype of nuclear submarine Triton at West Milton Atomic Power Laboratory damaged. Explosion.
Buffalo, N. Y.—Building housing Lee's Harvey & Carey, Inc., drugstore and Seaboard Finance Co. and adjoining building housing Howard Jewelers, damaged.
Buffalo, N. Y.—New York Central Railroad abandoned car shop destroyed.
Delhi, N. Y.—Barn on J. Kenneth Tuttle farm destroyed. Defective wiring.
Geneseo, N. Y.—Barn on Reverdy Wadsworth farm destroyed. Boys with matches.
Hamburg, N. Y.—Airseal Insulation Co. badly damaged.
Huntington, L. I., N. Y.—Huntington Yacht Club destroyed. Gas explosion.
Scotsville, N. Y.—Post office and food store destroyed.
Ranlo, N. C.—Maylo Methodist Church destroyed. Faulty wiring in ceiling.
Arcanum, Ohio—Building housing Post Office, Clark's Hardware Store, Arcanum Lockers and Library, destroyed.
Bainbridge, Ohio—Building housing United Department Store and IOOF Lodge Halls, destroyed.
Columbus, Ohio—Doctors Hospital considerably damaged. Worker knocked over blow torch.
Ironton, Ohio—Wilson Athletic Goods Mfg. Co. damaged.
Zanesville, Ohio—Pollock Jewelry Store and adjoining French Shop, women's apparel store, damaged. Defective wiring.
John Jay, Ore.—Blue Mountain Retail Hardware Co. destroyed. Furnace explosion.
Klamath Falls, Ore.—Pioneer Lodge destroyed.

Please turn page

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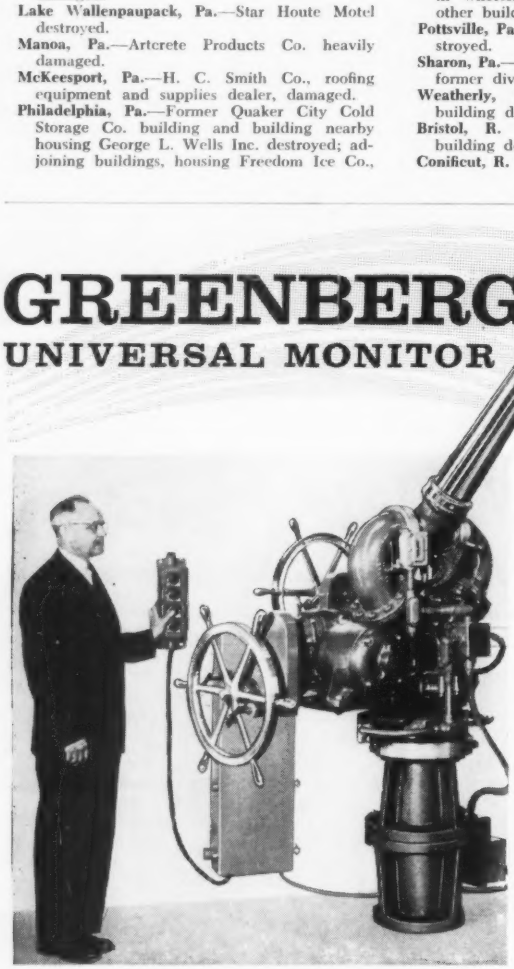
Portland, Ore.—Forbidden City Club and apartments destroyed.
The Dalles, Ore.—Hollenbeck's Dormitory damaged.
Tillamook, Ore.—Buehner Lumber Co. destroyed.
Yoncall, Ore.—Yoncall Tavern and Grill destroyed.
Warren, Ore.—Birdseye Frozen Food warehouse destroyed.
Downington, Pa.—Taherco Bros. warehouse destroyed.
Hershey, Pa.—Storage barn at Hershey Estates damaged.
Lake Wallenpaupack, Pa.—Star Houte Motel destroyed.
Manoa, Pa.—Artcrete Products Co. heavily damaged.
McKeesport, Pa.—H. C. Smith Co., roofing equipment and supplies dealer, damaged.
Philadelphia, Pa.—Former Quaker City Cold Storage Co. building and building nearby housing George L. Wells Inc. destroyed; adjoining buildings, housing Freedom Ice Co., Charlie's Bar and C. Strickler & Sons damaged.
Philadelphia, Pa.—Arcos Corp. storehouse building heavily damaged. Heat ignited pile of skids.
Philadelphia, Pa.—Five dwellings from 819 to 825 Roosevelt Boulevard, heavily damaged. Explosion.
Philadelphia, Pa.—Krometal Mfg. Corp. heavily damaged.
Philadelphia, Pa.—Pastore Armitage Post, Veterans of Foreign Wars, destroyed.
Philadelphia, Pa.—Two unoccupied warehouses in wholesale meat district destroyed; five other buildings damaged.
Pottsville, Pa.—Acme Supermarket building destroyed.
Sharon, Pa.—Westinghouse Electric Corp. transformer division plant damaged.
Weatherly, Pa.—Weatherly Woodwork Co. building destroyed.
Bristol, R. I.—Former Canfield Sanitarium building destroyed.
Conificut, R. I.—Business block housing George E. George's floor covering store, National Cleaners Store and vacant store, considerably damaged.
Pawtucket, R. I.—Building housing Auburn's Variety Store, Roland TV Repair Shop, La-France Barbershop, Blanche's Tailor Shop and apartments, damaged.
Chattanooga, Tenn.—Vine Street Food Market destroyed.
Jackson, Tenn.—Allen's Shoe Store and two other firms damaged.
Memphis, Tenn.—Fox Meadows Country Club clubhouse, under construction, destroyed.
Breckenridge, Tex.—Walker Caldwell Grade School damaged.
Dallas, Tex.—Building housing Gulf Stores and Sproule School of Dancing, damaged.
Dallas, Tex.—Clem Lumber Co. plant damaged.
Fort Clark, Tex.—One hundred and two-year-old Army fort, being used as hotel and headquarters for Batjac Productions, motion picture company, destroyed.
Houston, Tex.—Dwelling of Dr. Byrn Forister destroyed.
Port Arthur, Tex.—Schooner Restaurant destroyed. Overheated deep fryer.
Anacortes, Wash.—Pioneer Shingle Mill destroyed.
Olympia, Wash.—Capitol Forest Camp destroyed. Faulty furnace.
Quilcene, Wash.—Linger Longer Lodge destroyed. Faulty oil heater.
Spokane, Wash.—Great Northern Railway damaged. Explosion carload magnesium.
Walla Walla, Wash.—Whitman College campus house damaged.
Yakima, Wash.—White Pass Terminal Building destroyed.
Summerville, W. Va.—Ely-Thomas Lumber Co. destroyed.
Green Bay, Wis.—Million-dollar bridge over Fox River virtually destroyed.
Vancouver, B. C.—Floating crab cannery destroyed. Explosion.
Hamilton, Ont.—Pollock's Groceteria, Newson & Campbell Variety Store and apartments, damaged.
Regina, Sask.—Regina Airport hangar, housing 18 aircraft and 30 new automobiles, destroyed. □□

GREENBERG
UNIVERSAL MONITOR NOZZLES

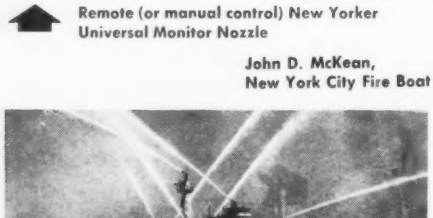


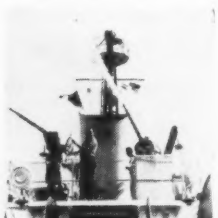
From coast to coast, Greenberg fire protection equipment is meeting the rigid requirements of modern fire fighting methods.

Whether it be monitor nozzles, fire hydrants, couplings or fittings, M. Greenberg's Sons manufacture them in all sizes and to all specifications. Pictured here is the new Greenberg "New Yorker" universal monitor nozzle. Five of these 3000 gallon-per-minute manually operated nozzles are mounted throughout the John D. McKean, with the sixth mounted on top of the fire tower, operated from below by remote control.

Remote (or manual control) New Yorker Universal Monitor Nozzle

John D. McKean, New York City Fire Boat





City of Los Angeles Fire Boat

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N. Y. State Holds Instructors Conference

The New York State Division of Safety, Bureau of Fire Mobilization and Control, recently sponsored its 11th annual Fire Instructors Conference at Rochester, N. Y., October 19–23.

Through the cooperation of the Rochester Fire Bureau, the sessions were held at the Fire and Police Training Academy.

The conference was held under the supervision of Deputy Director George Proper, Jr., New York State Division of Safety, and Roswell Pooler, chief of the Bureau of Fire Mobilization and Control. It was attended by 101 county fire instructors from throughout the state, and representatives of private industry and U. S. government installations.

During the conference, the New York State Fire Instructor's Association held its annual meeting. Officers elected are: Captain James Moffatt, Schenectady, N. Y., Fire Department, who succeeds Fire Commissioner Herbert Oakley, Pleasant Valley, N. Y., as association president; Chester Nichols, Monroe County instructor, Rochester, vice president; Earl Robbins, Washington County instructor, secretary-treasurer. The Rev. John Brown, Tioga County instructor, and chaplain of the New York State Fire Chiefs Association, was reappointed chaplain of the organization.

Herb Oakley

Connecticut Industrial Fire Safety Commission

An 11-man commission to promote fire safety in Connecticut's industrial plants was named in Hartford, Conn., on October 7. The appointments were announced by State Labor Commissioner Renato E. Ricciuti, in accordance with a 1959 State Legislature act. The commission will advise Mr. Ricciuti in determining what he called "effective and protective regulations." He said the "accepted practices of national fire safety standards will serve as a guide."

The Connecticut State Legislature directed the labor commissioner and the commission to draw up regulations providing for adequate exit facilities and periodic evacuation drills during working hours. The law requires training of competent persons in each place of employment to direct fellow employees in "prompt and orderly" evacuation during emergencies. It also requires clearly identified exit doors which swing open freely from within.

The new commission includes Fire Marshal George F. Kennedy of the Hartford Fire Department; State Police Captain Carroll E. Shaw of Essex, deputy state fire marshal; Leonard B. Kershner, pumper engineer in the Bridgeport Fire Department, and a member of the civil service commission in that city; Henry M. Konitz, New Haven, plant engineer, Sargent and Company; Thomas P. Egan, Winchester, personnel manager of The Torrington Company; Bernard I. Schub, New Haven, manager, Connecticut Dress Manufacturers' Association; Raymond J. Fulton, Fairfield, director of employee relations, Bridgeport Gas Company; Samuel G. Janis, Trumbull, assistant regional manager, International Ladies' Garment Workers' union; Andrew Daniels, Fairfield, represenative, United Steelworkers of America; Anthony DeLorenzo, Bristol, representative, United Auto Workers; and George E. Peters, Columbia, general representative, Connecticut Union of Telephone Operators.

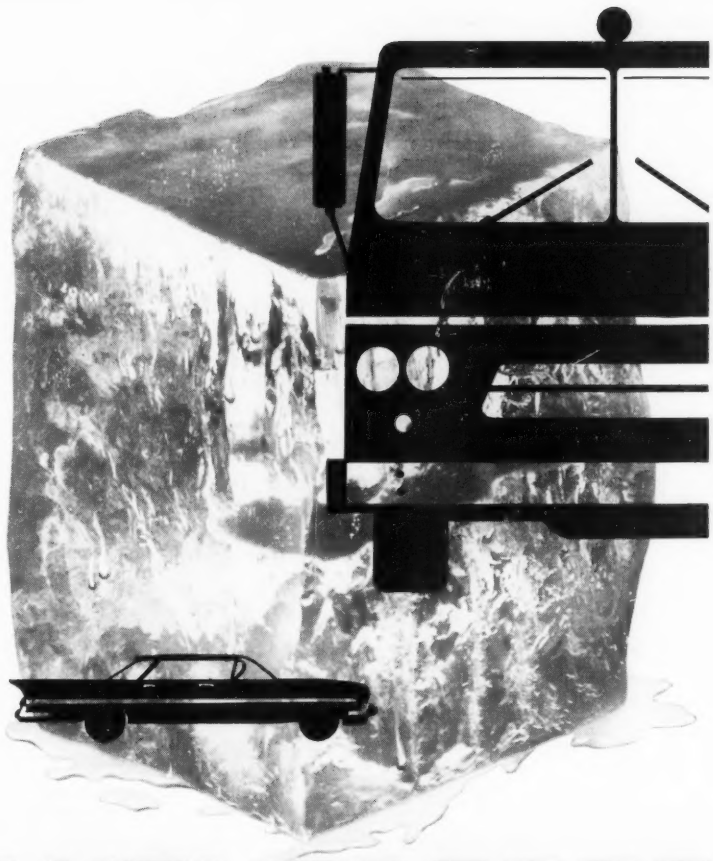
Tom Magner

Missouri Chiefs Organize

Missouri fire chiefs met at No. 3 Fire, House, Jefferson City, Mo., on November 1 and organized the Missouri Association of Fire Chiefs. Active membership is limited to fire chiefs in the state of Missouri, but associate membership is also available. An annual convention and election meeting is planned. Membership applications may be obtained from Jack Adams, secretary-treasurer, 410 Gill Avenue, Kirkwood 22, Mo.

The first officers elected were: John F. Sullivan, Jefferson City, president; Larry W. Graves, Sunrise Beach, first vice president; George I. Smith, Raytown, second vice president; Jack Adams, Kirkwood, secretary-treasurer; Clyde O. Long, Carthage, Clarence L. Babcock, Kirksville, and Alden L. Campbell, Gashland, directors.

Jack Adams



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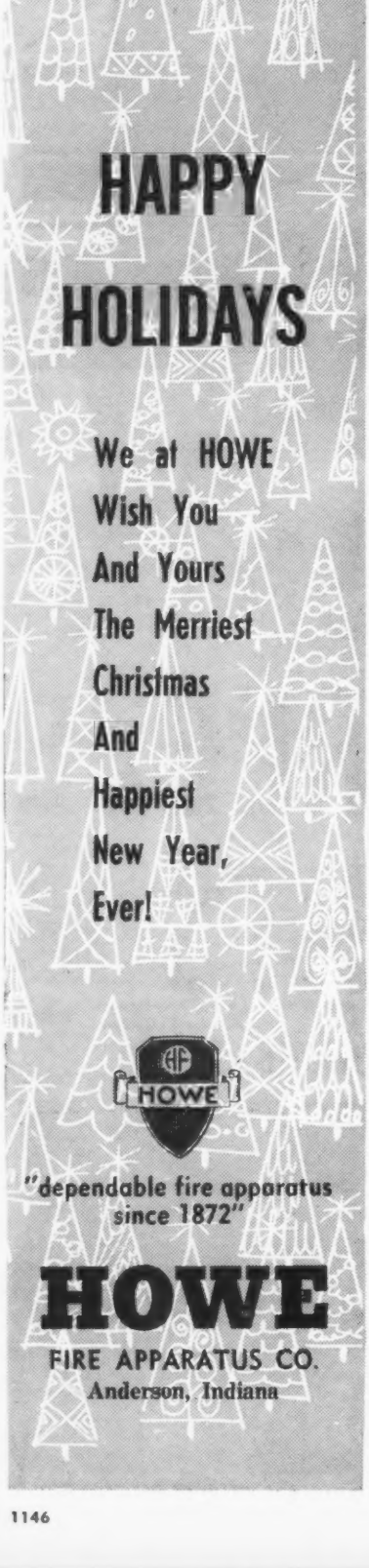
NATIONAL FOAM FIRE PROTECTION SYSTEM



the round table

discussion of current fire department and fire management problems

Who Is Responsible for Fire Prevention Inspections?

THIS IS THE SECOND installment of the Round Table on conducting fire prevention inspection programs.

Readers are invited to participate in the discussion which will be continued in the January issue. Address replies to Round Table Editor, FIRE ENGINEERING, 466 Lexington Avenue, New York 17, N. Y.

The Discussion

William L. Hilbish, Chief, Alameda, Calif.: The direct responsibility for fire prevention has been delegated to a full-time battalion chief in charge of the fire prevention bureau. In collaboration with all chief officers and a committee composed of firemen, he proposes and produces the programs.

He has direct supervision of a lieutenant assigned to the bureau and coordinates additional activities involving assistance of fire suppression members, through the assistant chiefs.

Inspections of waterfront, tank, industrial installations, etc., are conducted by the fire prevention bureau. Residential, mercantile and industrial annual mass inspections are accomplished by the companies "in service." This benefits us by being able to preplan at the time of inspection.

All inspectors are of the uniformed service.

The above arrangement has proven very effective, although we are always alert to new ideas.

John Pavlik, Chief, West Milwaukee, Wis.: The West Milwaukee Fire Department's bureau of fire prevention and protection functions as follows: A fire captain, under the direction of the fire chief, is responsible for fire prevention programs, public education, public relations and industrial fire brigade training.

Inspection personnel are under the direct supervision of an acting fire lieutenant, who also keeps the records required, makes follow-up inspections, and maintains records relating to fire causes, losses, insurance and valuations.

Regular inspections are carried out by two fire inspectors, who work a 24-hour day on alternate shifts. These men perform their inspection duties during the day and ride the apparatus nights.

In addition to regular inspections by fire inspectors, home, school and industrial "in-service" inspections are carried out by all fire companies, with all personnel participating.

Harry E. Homan, Chief, Bismarck, N. D.: The captain of our fire prevention bureau has direct responsibility for fire prevention inspections and supervises inspection personnel. He goes along on all inspections made by the department.

All the inspections are made by various members of the different companies. These are not the same persons all the time. We believe that all persons on the department should get acquainted with and know the various hazards in all of the buildings inspected. This also keeps most of the men busy and helps to prevent the public from saying "you do nothing but sit around all of the time."

All our inspectors are not uniformed firemen. We do, however, believe that every one should be in uniform when going out in public on duty.

Edward R. MacDowell, Acting Chief, Camden, N. J.: The fire marshal has direct responsibility for fire prevention inspections, although his office is under the fire chief.

The fire marshal has a staff of six uniformed firemen. These men carry out routine inspections periodically in all business establishments and manufacturing plants, plus inspections on all new oil burner and gasoline tank installations. They also follow up on all complaints, such as persons burning rubbish, defective chimneys and high grass and weeds that have become a hazard. Twice a year, spring and fall, all schools are thoroughly

THIS MONTH'S QUESTIONS

What person in your department has direct responsibility for fire prevention programs?

Does this person have direct supervision of inspection personnel at all times? If not, state manner of supervision.

Are inspections carried out solely by the fire prevention bureau or comparable office? If not, how are they conducted?

Are all inspectors uniformed men? If not, briefly state type of personnel filling positions.

inspected, with fire drills being held at the same time.

Captains of all companies are charged with the responsibility of making periodic inspections within their district. Their reports are forwarded to the chief's office, which in turn are sent to the fire marshal for his information and filing. All companies retain a copy. If there are any major violations recorded on these reports, the fire marshal's office immediately acts on same.

All inspections are made by uniformed firemen. In cases of suspicion of arson, the investigator would wear plain clothes. Usually this type of investigation is made with a member of the detective division.

Due to the fact that only our chiefs' cars are radio-equipped, we are unable to make residential (block by block) inspections. However, we are hoping to be equipped for this phase of fire prevention and fire protection in the near future.

Hugh R. Worley, Chief, Bristol, Va.: The chief is directly responsible for fire prevention inspections.

He appoints a captain, who takes care of all inspection work, or fire prevention activities. This is a full-time job in the department.

Inspections are carried out by the fire prevention captain, who works in uniform. Home inspection work is done by uniformed firemen on duty and consists of two men inspecting and one standing by the radio within the block.

Fire prevention has been our main project since 1945. We know it has sold the department to the public, as well as prevented fires and saved lives.

Ray Jordan, Chief, Muskogee, Okla.: We delegate the responsibility of fire prevention inspections to the fire marshal.

This person has direct supervision of inspection personnel at all times.

Inspections are carried out solely by the fire prevention bureau.

All inspectors are uniformed firemen.

J. C. Evans, Chief, Greenwood, Miss.: The fire chief of our department has direct responsibility for fire prevention inspections and supervises the inspection personnel.

Inspections in our department are carried out solely by the fire prevention bureau.

All inspectors are uniformed firemen.

G. F. Vernotzy, Chief, Akron, Ohio: We have an organized fire prevention bureau, headed by a district chief holding the title of chief fire warden. He is held directly responsible for fire prevention inspections. However, he reports to the fire chief.

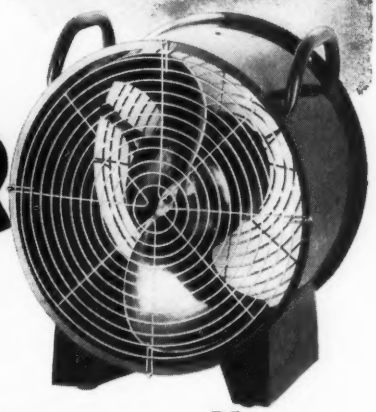
The chief fire warden has direct supervision of personnel assigned to the fire prevention bureau.

Generally, inpections are carried out by the fire prevention bureau. However, we sometimes have the individual fire companies make fire prevention inspections and all reports of such are sent to the fire prevention bureau for recording. We also have the individual fire com-

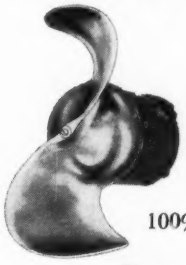
Get smoke out, get air in

with Multi-Purpose

SUPER VAC



CONTROLLED VENTILATION UNITS



NOT JUST A FAN... but a powerful vacuum-action air screw... Super Vac is amazingly simple in operation, made possible by the efficient design of the **powerful propeller** that is the heart of the unit. This patented propeller produces 100% pulling or blowing power over its entire surface.

Proved method of saving lives while also reducing smoke damage

Fire departments **nation-wide** attest to the speed with which Super Vac provides **controlled ventilation**... so necessary in modern fire fighting. This multi-purpose unit primarily (1) gets rid of smoke and fumes through its powerful vacuum action... or, (2) furnishes a tremendous blast of fresh air into the smoke-congested area, reducing the dangers of combustion and asphyxiation. Although one unit is often sufficient, **complete controlled ventilation** can be more speedily accomplished by using two or more units... one or more units **pulling out the smoke and fumes** while the remaining units **blow in a steady supply of fresh air.**

★ **Highly portable... operates in any position**
★ **Design permits vertical stacking**
★ **Made in 16" and 24" sizes**
★ **AC or DC, regular or explosion-proof motors**
★ **Choice of red or white baked enamel finish**
★ **Running board mounts available**

For complete details and specifications on

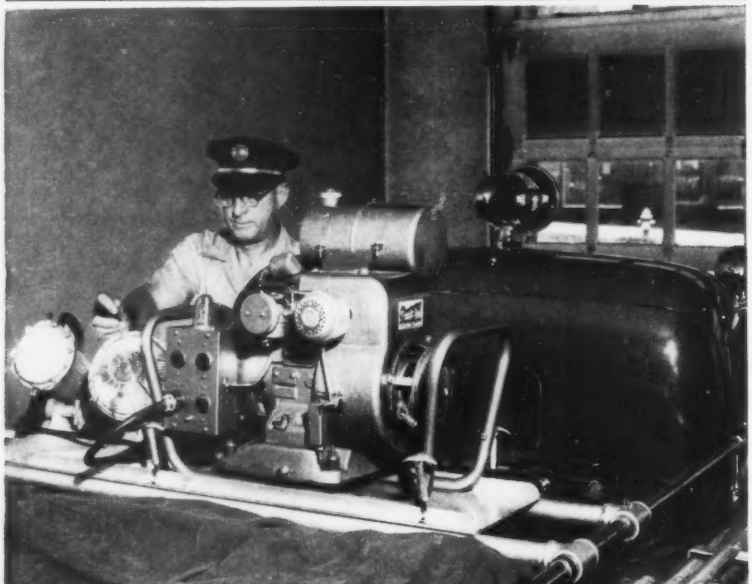
... contact your fire equipment dealer

... or write manufacturer

SUPER VACUUM

SUPER VACUUM MANUFACTURING CO., Inc
319½ East Seventeenth Ave., Denver 3, Colorado

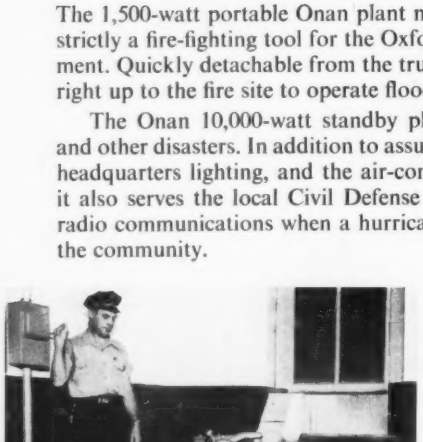
Onan NEWS REPORT



Department uses two Onan plants to fight fires, and hurricanes, too!

The 1,500-watt portable Onan plant mounted on the rig above is strictly a fire-fighting tool for the Oxford, North Carolina department. Quickly detachable from the truck mount, it can be carried right up to the fire site to operate floodlights and tools.

The Onan 10,000-watt standby plant below helps fight fires and other disasters. In addition to assuring power for police radio, headquarters lighting, and the air-compressor fire signal system, it also serves the local Civil Defense organization, guaranteeing radio communications when a hurricane or other disaster strikes the community.



10KW PLANT HANDLES ALL ESSENTIAL NEEDS

Radio, air compressor and lights are on the emergency circuit. A flip of the switch starts the plant. Onan also supplies automatic start-stop transfer controls for permanent installations where personnel are not always on duty.

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Onan ELECTRIC PLANTS

panies make dwelling inspections, as well as industrial and commercial inspections.

All inspectors are uniformed firemen and all men assigned to the fire prevention bureau are lieutenants. When the individual fire companies make inspections, all the uniformed men participate. In all cases, these men are under the direct supervision of either a captain or a lieutenant.

John J. Killen, Chief, Baltimore, Md.: The chief of the fire department is directly responsible for the enforcement of the fire prevention code.

The fire prevention bureau is supervised by a battalion chief, who reports directly to a deputy chief assigned to headquarters.

Inspections are made by company officers who are assigned an inspection district and forward reports of violations to the fire prevention bureau. These reports are then processed by officers of the fire prevention bureau.

All inspections are made by uniformed officers.

R. L. Lampley, Chief, Montgomery, Ala.: The chief of the bureau of fire prevention is responsible for fire prevention inspections. He also has direct supervision of inspection personnel.

Inspections are carried out by the fire prevention bureau. However, twice a year all fire company officers make inspections.

All inspectors in the Montgomery Fire Department are uniformed firemen.

F. E. Saefke, Chief, Fargo, N. D.: The deputy fire chief has direct responsibility for fire prevention inspections.

He also has direct supervision of inspection personnel at all times.

Inspections are carried out solely by the fire prevention bureau.

All inspectors are uniformed firemen. In addition to the deputy chief, the fire prevention bureau of the Fargo Fire Department includes two firemen.

M. H. Sutton, Chief, Washington, D. C.: The fire marshal in our department is responsible for fire prevention inspections and supervises the fire prevention division.

Each company of the fire fighting force makes inspections in their own local alarm districts, under the supervision of the battalion chief. All violations of regulations observed, are referred to the fire prevention division for their information and follow-up.

All fire inspectors in the fire prevention division are uniformed firemen, selected from the fire fighting force, with six or more years of experience. They are given six weeks of on-the-job training with experienced personnel in all phases of the work assigned to the fire prevention division before being assigned to an inspection district.

Louis W. Hoeft, Acting Chief, Milwaukee, Wis.: In the Milwaukee Fire Department, the officer in charge of the

bureau of fire prevention and investigation has direct responsibility for fire prevention inspections.

He has direct supervision of the personnel assigned to his bureau, including performance, assignment, and minor discipline. Lower-grade officers assist in this supervision.

Fire inspections are carried out by both the fire prevention bureau and by in-service fire fighting companies. Fire inspectors usually work independently, but in-service inspectors work in pairs. The fire fighting division concentrates most of its inspection outside the fire limits, and omits large plants and mercantile establishments.

All inspection is done by uniformed personnel. Fire prevention inspectors have the title "fire fighter" and are directly interchangeable between the fire prevention bureau and fire fighting division.

Harold L. Foster, City Fire Marshal, Louisville, Ky.: The city fire marshal is responsible for fire prevention inspections, under the supervision of the chief.

He has direct supervision of inspection personnel at all times.

Each fire company makes inspections in its particular districts. Complaints of other than a "minor" nature are processed by the fire prevention bureau. The officers and inspectors of the bureau supervise the inspection work done by fire company personnel.

Members of the fire prevention bureau are selected from the ranks through civil service promotional examinations.

D. W. Abernathy, Chief, Joplin, Mo.: The chief of the department has direct responsibility for fire prevention inspections.

One full-time uniformed man is employed as inspector and carries out fire prevention activities.

Wayne E. Ulm, Chief, Des Moines, Iowa: In our department, the fire marshal has direct responsibility for fire prevention inspections and supervises inspection personnel at all times.

The fire prevention bureau and all companies from the various fire stations carry out inspections.

All inspectors are uniformed firemen.

C. F. Dreves, Chief, Tampa, Fla.: The fire marshal is responsible for fire prevention inspections and supervises inspection personnel at all times.

In our department, inspections are carried out solely by the fire prevention bureau.

All inspectors are uniformed firemen.

Donald S. Charles, Chief, Charlotte, N. C.: The deputy chief has direct responsibility for fire prevention inspections.

This person has full-time and direct supervision of inspection personnel.

Regular inspections are carried out by the fire prevention bureau and each company makes surveys of buildings in its district.

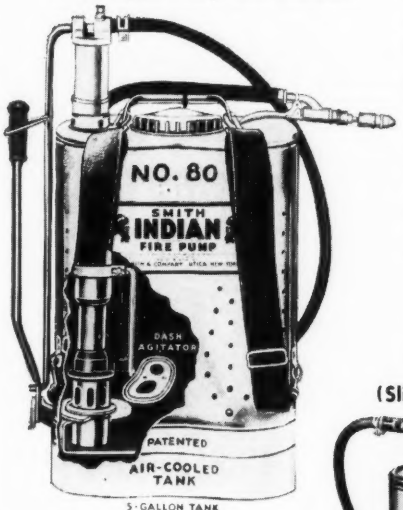
Inspectors are uniformed firemen assigned to this duty. □□

Fire Truck built by W. S. Darley & Co., Chicago, Ill., delivered to Manila Fire Department, Republic of the Philippines. Note **INDIAN FIRE PUMPS** mounted.

INDIAN

FIRE PUMPS belong on *YOUR* truck, too!

No. 80
INDIAN
(Lever Type Pump and Handle)



5-GALLON TANK

Trucks without **INDIAN FIRE PUMPS** are like ham without eggs — incomplete. More and more new Fire Trucks are coming through with **INDIAN FIRE PUMPS** as standard equipment.

Do YOU have an ample supply of these great back-pack fire fighters? They have no equal for quickly extinguishing so many smaller fires. **ORDER NOW!**

No. 90
INDIAN
(Sliding Pump Type)

Both types approved by Underwriters' Laboratories, Inc.

We have improved the brass sliding pump on the **No. 90 INDIAN** so that a boy can use it with ease at all times. When you buy your next lot of **INDIANS** you will be very much pleased with them and you will find it is a pleasure to operate them.

Fire fighting authorities who have experimented with a "WET WATER" powder mixed with the water in an **INDIAN FIRE PUMP** tank report it does an excellent job.

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The Watch Desk

On Her Shopping List

Not long ago an Air Force staff sergeant attempted to start his car, which was parked outside the Alaskan Command Building, Elmendorf AFB, near Anchorage. The vehicle caught fire and while awaiting arrival of the base fire department, the sergeant unsuccessfully attempted to smother the flames with a blanket. At that moment a woman shopper happened by, spotted the flames, and nonchalantly handed the sergeant some baking soda. By the time the fire fighters arrived, the soda had snuffed out the blaze. It was then discovered the woman was the wife of the Alaskan Air Command's fire protection engineer and was acquainted with the attributes of the household chemical.

E. M. Christensen

Fiery Politics

The faces of some politicians in the Town of Shelton, Conn., were as red as the flames that swept a stretch of woods recently in the Pine Rock Park section. When an alarm sounded for Volunteer Fire Company No. 4 to respond to a blaze along the Far Mill River, astonished firemen found the company's old pumper wasn't in the garage. The vehicle was busy hauling water to a country club swimming pool where an annual political picnic was to be held the next day. The baffled fire fighters hopped into the company's remaining truck and managed to extinguish the fire. The fireman operating the pumper at the pool was notified and left the country club but by the time he arrived at the scene, the fire was out.

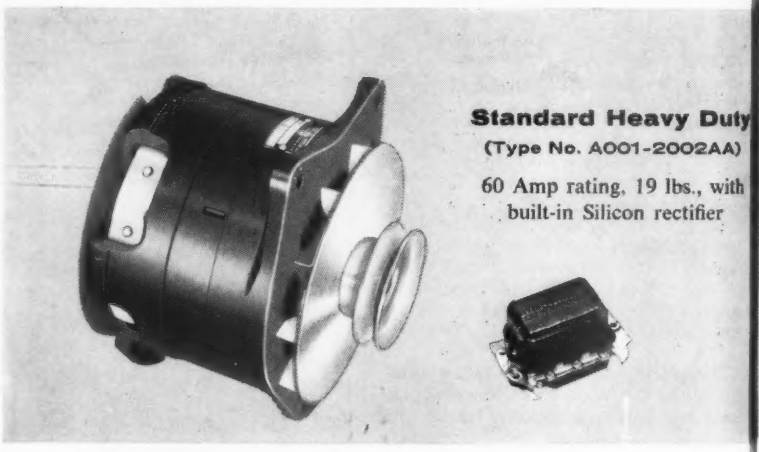
There was considerable mystery surrounding permission for the services of the pumper. An officer of the fire company who was also co-chairman of the picnic said, "I can't think clearly about the incident."

Tom Magner

Hot Off the Tape

A blindfolded drum majorette performing with flaming batons on an auditorium stage in Mt. Ephraim, N. J., a few weeks ago, lost her balance during the act and started a fire which forced evacuation of the building. The 18-year-old girl fell against a large stage curtain and her fiery batons caused it to blaze up. Other performers pulled her to safety and several persons in the audience grabbed hand extinguishers and fought the flames; the remaining spectators filed out calmly. Prompt action by the local fire department snuffed out the blaze before any great damage was done. . . . Not long ago a North Adams, Mass., boy was threatened with a spanking for turning in a false alarm at 10:30 in the evening. The eight-year-old ran off with his dog to escape punishment as four companies of the local department responded. Despite the darkness the young culprit was nabbed by his mother and the discipline administered. His faithful dog had given away the hiding place by continued barking. . . . Last August volunteer fireman Ronald O'Kane left his service station in Englewood, Colo., to answer a call to another service station which was on fire. While he was laboring to keep his competitor in business, somebody stole his $200 cash register containing $93. . . . The Hopkinsville, Ky., City Council recently threw that state's attorney general a new curve. The city wishes to buy a fire station on the installment plan, but could find no legal precedent for the action. The community recently acquired two new fire engines on the lease-purchase plan and decided the idea was worthy for a new building. The attorney general took the question under advisement. . . . Old Saybrook, Conn., vamps literally went to a clambake on September 8. Traffic on the New Haven Railroad was halted while the erstwhile fire fighters conquered a blaze that cooked thousands of the delectable shellfish in a refrigerator car. . . . Newark, N. J., firemen found out recently that it costs money to get a pay raise. The Firemen's Mutual Benevolent Association notified its members that they will be assessed $3.50 on each $100 of a proposed average raise of $800 which the voters will pass on at a referendum on election day. The association stressed that those failing to make payment before November 1 would be dropped from the membership rolls. The $28 "deductible" was to be used in financing a publicity campaign to assure passage of the 15 per cent pay raise. □□

NEW LEECE-NEVILLE FEATURE BUILT-IN



Standard Heavy Duty
(Type No. A001-2002AA)

60 Amp rating, 19 lbs., with built-in Silicon rectifier

NEW 2-PIECE SYSTEMS PERFORM BETTER, CUT MAINTENANCE COSTS, CONSERVE SPACE

Silicon cell rectifiers, now *built-in* as an integral part of the alternator, have eliminated the separately mounted Selenium rectifier in new L-N Alternator-Generator Systems. The resulting benefits to you are as follows:

Better Performance—curb idle current increased 42%, current at city and highway speeds increased 20%, greater heat resistance, and longer life (Std. H.D.).

Lower Maintenance Costs—expense of mounting separate Selenium rectifiers is eliminated. Silicon cells (6 to a rectifier) can be replaced individually at far less cost than a complete Selenium rectifier.

Space Savings—new 2-piece systems require less space under the hood. Cost is comparable to previous 3-piece systems. Low-cost kits for converting your present 3-piece systems to new 2-piece systems also available.

You can specify Leece-Neville systems as factory-installed special equipment on more than

90% of all new vehicles

Hartford Celebrates 95th Anniversary

The Hartford, Conn., Fire Department recently marked its 95th anniversary as a paid city department. On October 10, 1864, the city officials first hired full-time fire fighters. At that time there were three men employed for each of the five stations. In addition, the city fathers also agreed to the hiring of two bunkers for each station and several callmen. The bunkers, who slept at the stations each night, were paid $187 a year. The callmen received $114 per year. No records are available concerning the wages of the full-time firemen.

The Hartford Fire Department goes back a lot farther than 95 years, to February 23, 1789, when the fire department was first authorized and the town ordered a tax of 300 pounds sterling to buy engines and build cisterns. Later that year, in November, one engineer and three firemen were pressed into service. The first fire chief was Miles Beach, a silversmith. Still later, 30 militiamen were released from their guns to man the fire engines.

In the early days a prize of $10 was awarded to the first fire engine to arrive at fires. The first hook and ladder was purchased by the city in 1812. The first hose was procured in 1821; in 1834 the first leather hose, 1,600 feet of it, was purchased, and in 1861 the first steam fire engine was placed in service.

During 170 years of fire fighting, the Hartford Fire Department has won many awards for fine safety records. The present chief of department is Thomas Lee, who recently succeeded Chief Henry Thomas, now on the staff of the National Board of Fire Underwriters.

Tom Magner

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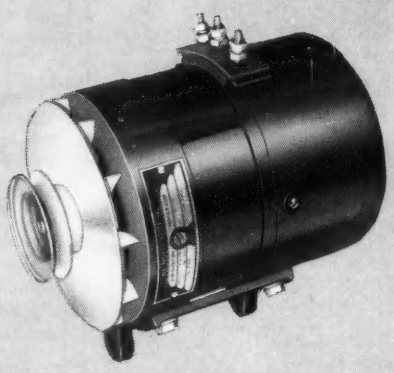
Heavy Duty
(Type No. A001-2000AA)
0, 100 and 125 Amp ratings,
2 lbs., built-in Silicon rectifier



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End electrical failures, cut costs! Send for details now.

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☐ Send literature on new L-N Silicon Systems
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Coming Events

June 19-21—South Carolina State Firemen's Association. Annual meeting, Poinsette Hotel, Greenville, S. C. Secretary-Treasurer, David H. Gillam, Jr., Orangeburg, S. C.

Nov. 3-5—International Rescue and First Aid Association. Annual meeting, Benjamin Franklin Hotel, Philadelphia, Pa. For further information, contact the Executive Office, 314 King Street, Alexandria, Va.

FIRE COLLEGES

Florida State Fire College—Jan. 12-15—**Fire Service Training Improvement Conference.** Mar. 14-18—**Units 101,** Tools, Forcible Entry, Breathing Apparatus, Extinguishers; **106,** Fire Inspection; **201,** Instructor Training. Mar. 21-25, **Units 102,** Hose and Ladders; **202,** Company Officer Training; **206,** Fire Prevention and Protection. Mar. 28-Apr. 1, **Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204,** Fire Fighting Tactics. Apr. 4-8, **Units 104,** Fire Streams; **107,** Arson Detection; **208,** Fire Department Administration. May 16-20, **Heating and Air Conditioning.** June 6-10, **Fire Pump Maintenance;** Aug. 8-12, **Seminar in Arson Investigation and Detection.** Sept. 5-9, **Units 101,** Tools, Forcible Entry, Breathing Apparatus, Extinguishers; **106,** Fire Inspection; **201,** Instructor Training. Sept. 12-16, **Units 102,** Hose and Ladders; **202,** Company Officer Training; **206,** Fire Prevention and Protection. Sept. 19-23, **Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204,** Fire Fighting Tactics. Sept. 26-30, **Units 104,** Fire Streams; **107,** Arson Detection; **208,** Fire Department Administration. For information contact Florida State Fire College, P. O. Box 785, Ocala, Fla.

Indiana Fire Training Program—Jan. 11-15, **Fire Instructors Training Course.** Feb. 2-4, **Fire Administrators Conference.** Mar. 29-31, **Industrial Fire Control Course.** Apr. 20-21, **Company Officer Supervision.** May 16-20, **Basic Fire School.** All courses will be held at Purdue University, Lafayette, Ind. For information, write Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

International Arson Investigators Seminar—Apr. 25-29, Purdue University, Lafayette, Ind. For information, write Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

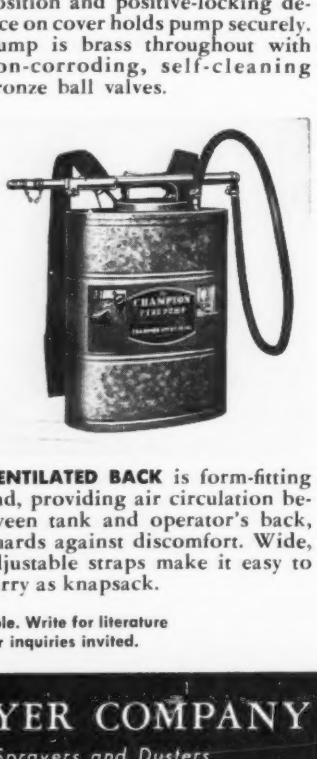
Maryland Industrial Fire Protection Short Course—Feb. 9-11, to be held at the Fire Service Extension Building, University of Maryland, College Park. For information contact Robert C. Byrus, Director, P. O. Box 85, College Park, Md.

Morris County, N. J., Fire School—January 5, Wharton Fire Headquarters; February 2, Roxbury Fire Headquarters, Succasunna; March 1, Denville Fire Headquarters; April 5, Milbrook Fire Headquarters, Randolph Township. For information, write Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

CHAMPION slide pump makes "a little spray go a long way" on a fire-fighting job

HEAVY-DUTY PUMP has Champion-designed handle which lowers to any convenient position for easy operation. When not is use, the sturdy handle locks pump in closed position and positive-locking device on cover holds pump securely. Pump is brass throughout with non-corroding, self-cleaning bronze ball valves.

ADVANCED-DESIGNED TANK is also built for dependable performance. Important feature is attachment of hose at top of tank to prevent water leaking when pump is below bottom of tank. Large filler opening has leak-proof cover with non-freeze gasket; locks securely, no threads to wear. Tank holds up to 5 gallons.



VENTILATED BACK is form-fitting and, providing air circulation between tank and operator's back, guards against discomfort. Wide, adjustable straps make it easy to carry as knapsack.

Piston-type pump also available. Write for literature on both models. Distributor inquiries invited.

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1215 Kalamazoo St. South Haven, Mich.

APPARATUS MAINTENANCE

Continued from page 1133

chanic's truck is 9-2-195. Each vehicle's number is entered on its record card.

The driver makes out a monthly apparatus report which is signed by the captain and submitted to the deputy chief. This report lists the number of alarms responded to, road miles traveled during the month, tachometer miles registered, gasoline and oil used and pumping time. The driver fills in 22 items regarding the condition of the apparatus such as condition of motor, steering gear, brakes, tires, battery and date of recharging; level of crankcase oil and whether all bolts are tight. There are several lines at the bottom of the form for the driver to explain any condition which needs attention. The company commander notifies the battalion chief of any apparatus trouble, major or minor, and the battalion chief notifies the master mechanic. As a double check, the deputy chief notifies the master mechanic monthly of any condition which the driver has reported as needing attention.

We constantly maintain records of gas and oil consumption by each vehicle. Comparing these figures with miles traveled and tachometer miles, assists us in finding any vehicle with above-average running costs. The mechanics then check out the carburetor, points and spark plugs, and seek to eliminate the cause by replacements, repairs or adjustments.

We change oil every 90 days in the fire apparatus and every 1,000 miles in the rest of the vehicles. We check the used oil for any unusual conditions such as water or metallic particles in the oil, or gasoline dilution of the oil. At the same time we thoroughly check the battery, condenser, distributor, points, tires and running gear. We use a rust inhibitor in the cooling system which has eliminated radiator troubles and keeps the cooling system clean.

In the spring and summer, the master mechanic assists in the driver training and pump operator training program. He also assists in the annual pump tests which give him the chance to check the performance of the motor and pump under working conditions. Our preventive maintenance program certainly has assisted us in finding minor troubles before they develop into major ones. □□

Driver Faces Charges In Fireman's Death

Byron Day of Dallas, Tex., a driver for the Western Gillette Motor Transport Co., was charged with negligent homicide in connection with the traffic death of Houston Fireman Willis N. McWhorter, Jr., on November 6.

McWhorter was killed and three other firemen were injured when Day's tractor-trailer, loaded with 30,500 pounds of reinforcing steel, rammed the fire apparatus as the pumper passed through a red light with its signal light flashing and its siren sounding.

JUNIOR COLLEGES

Continued from page 1132

had previously undertaken vocational or other training and educational work in the fire service field. The committee also enlisted the assistance of the State Department of Education, Bureau of Industrial Education.

The two County colleges provide excellent countywide coverage, Palomar receiving students from the northern area; San Diego College taking those from the southern section. In addition to availability, the institutions provide the highly important funds to finance the program together with the necessary classrooms and other facilities without which no fire training program could hope to succeed.

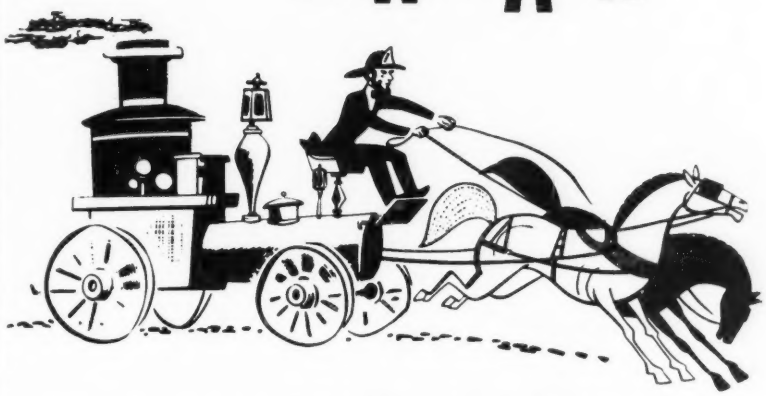
The courses are given on a platoon basis and repeated on successive nights so that firemen working a 24-hour tour may attend all classes on their nights off-duty. Provision has been made for students who for some reason have missed a class, to make up the lost session and maintain the desired attendance record.

At the outset, the decision was reached by all concerned that a basic objective would be student training on a qualitative rather than a quantitative basis. Therefore a limit of 100 students, was set for the initial, or pilot program. It was also decided that the classes in Fire Science 18 (Fire Department Apparatus and Equipment) would be held to under 25 students per session, because much of the instruction would be in the field.

The program calls for a total course in the first semester of a minimum of 54 hours over a period of 18 weeks. Sessions are from 6:30 to 9:30 p.m. at each college. The enrollment charges for students is $3.00 at Polamar Junior College and $1.50 at San Diego Junior College. Enrollment cost covers certain publications and data issued by instructors to students; books and supplies are extra.

One of the knotty problems that had to be solved by the advisory committee was the selection or screening of students because of the selectivity of the program and the need for maintaining impartiality between paid and volunteer firemen of all ranks, and between fire departments of all sizes. There were no limitations as to eligibility except in the number of enrollees, and their selection was left to the respective chiefs of member departments in the Association. The courses were open to "any person employed in the field of fire fighting who will benefit from the instruction." Although attendance was selective, and yet in-

WHOA-A-A



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YOUR BEST BADGE BUY

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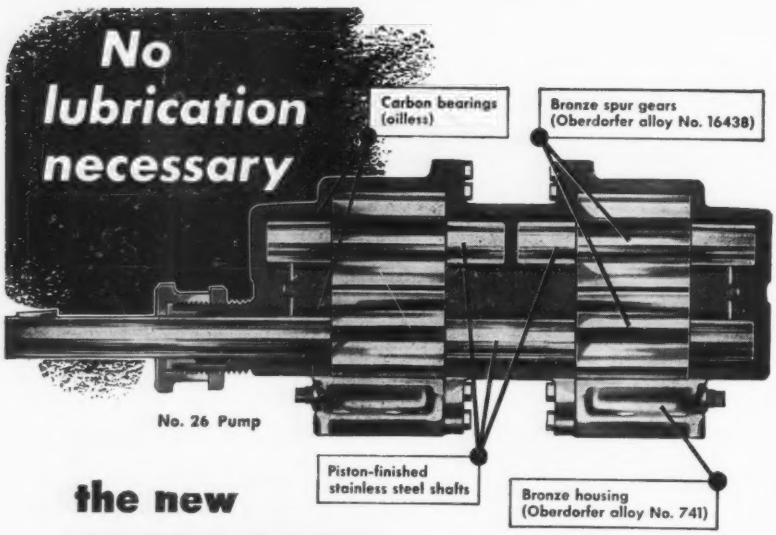
No lubrication necessary
Carbon bearings (oilless)
Bronze spur gears (Oberdorfer alloy No. 16438)
No. 26 Pump
Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)

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OBERDORFER

BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500'—1½"	20'	150
13	1600	120	500'—1½"	20'	75

LIST PRICES — No. 26 — $249.50 No. 13 — $122.50

Slightly higher west of Rockies

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

The

"HOME ALARM"

RADIO ALARM SYSTEM

The Modern Dependable Alarm System for

FIRE DEPARTMENTS – CIVIL DEFENSE – EMERGENCY SERVICE

Write for descriptive literature
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ELECTRONIC DIVISION
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cluded all ranks, further study indicated the curricula should be broad in scope and the subject matter generally held to basic fundamentals. Training at officer levels will be considered for future courses. In standardization and in presentation of subjects, considerable latitude was permitted instructors.

The two courses are: Fire Science 9 (Fire Fighting Practices)—"A course in the art of using manpower, equipment and apparatus on the fire ground, including practical methods of how to attack, control, and extinguish structural, watershed, waterfront, oil and other types of fires." Fire Science 18 (Fire Department Apparatus and Equipment)—"A course in the principles of pumping, construction and operation of pumps and pumping accessories, driving and pumping practices, principles and operation of aerial ladders, hydraulic systems, water supply, effective fire streams, trouble shooting, and related subjects."

The nature and scope of the subject matter suggested an approach to the procurement of requisite instructor personnel. However, locating the desired teacher talent proved to be a problem to the committee, and the colleges.

It was decided at the outset that this talent must come from men in or closely allied with the fire service. This caused complications due to a stipulation in effect in the state's junior colleges that instructors in vocational subjects be within certain age limitations. Fire fighters of retirement age, for example, are considered ineligible, regardless of their fire fighting and teaching experience.

Another serious obstacle was the junior college requirement that teachers in vocational subjects (they are termed "standard part-time teachers") have a minimum of 60 hours of teacher-training and certain certification, regardless of experience in the respective field. This meant that of four instructors decided upon for the first semester, three of them had to take a full course in how to teach. Obviously, this narrowed down the selection of instructor personnel.

In the south, the San Diego Fire Department provided two battalion chiefs; Laurence Sheehan, who is personnel officer, took Fire Science 9 and Robert Ely, who is superintendent of maintenance, took Fire Science 18 for San Diego Junior College.

Their counterparts, for the northern area of the County at Palomar Junior College, are Chief Ward Ensley of the Escondido Fire Department, who teaches Fire Science 9, and Chief James Fox of the Rancho Santa Fe

Fire Department, who handles Fire Science 18.

Starting from scratch, there was a dearth of available training aids for the instructors. The colleges rectified this in part, by securing motion pictures, providing source data on subjects, etc. But most of the instructors had to contrive various mechanical and other aides to supplement their oral lectures. Chiefs Ely and Fox, for example, prepared their own photographs, photo-slides and diagrams. In this, they were fortunate in having the cooperation of certain apparatus and equipment manufacturers.

The San Diego Fire Department went all-out to insure the success of the training program. Assistant Chief Alton Penrose, in charge during the absence of Chief Courser, arranged field trips for the students to the fire department shops and test pits where they inspected pumps and apparatus being overhauled and witnessed standard pump service tests. Further practical experience in operating pumps has been obtained with the cooperation of several cities and fire districts in the County which have volunteered pumpers due for tests, to be tested at the San Diego pits. This procedure proved to be one answer to the need for practical in-the-field fire training. Special cooperation was provided by the Eleventh Naval District, where facilities of the Naval fire fighting schools were made available to the students.

Cut-away pumps and other mechanical equipment, loaned by manufacturers have been rotated among the classes, in lieu of permanent mechanical fixtures at each of the colleges, all this with no expense to County or colleges.

On November 19 the fire training advisory committee met with County fire chiefs to review progress and plan for next semester's program — both colleges having signified their satisfaction over the success of the initial effort. A number of improvements are contemplated, among them: (1) Increasing the number of students; (2) more instructors; (3) additional training aids; (4) adding to the number of guest lecturers; (5) establishing a center for research and source material; (6) improving curricula and classroom procedures, etc.

Concluding the present program, examinations will be held in January, and students given passing grades will receive their credits and certification.

The academic and fire service officials of the county are more than satisfied with the progress and the interest of the students. As a result 12 new courses in fire science have been approved for next semester. □□

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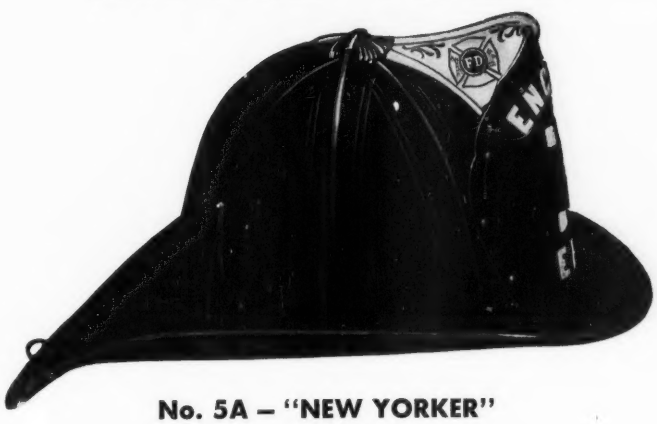
THE FIREMAN'S FIRST LINE OF DEFENSE SINCE 1836



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Minimizes Chain Repair Time! . . .opens, closes links up to 13/32" in Diam. — in seconds!

Powerful Alloy Steel, Drop-Forged Jaws! . . . and you work standing up — no work-bench needed!

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Your Equipment Supply House can supply you with these tools. Write direct for your free catalog and complete details!

H. K. PORTER, inc. HKP® Somerville 43, Mass.

FIGHTING FIRE ON THE DEW LINE—*Continued from page 1122*

having bronze screen shielding for proper operation of electronic equipment, most DEW Line structures incorporate extensive fire protection and fireproofing. Active fire protection is afforded by automatic thermostatic coded fire alarm systems; standpipe systems; CO_2 systems; portable, wheeled, trailer, sled and vehicular-mounted fire extinguishers and various fire fighting tools and equipment. Passive fire protection is afforded by fire-resistant paint, fire breaks at inter-module joints and by fire barriers distributed throughout the building train to divide it into zones. The fire barriers, which are steel voids with central passageways (corridors) and of the same width as modules, prevent the spread of fire for a long time, provided the wind is not too strong. Fire doors at both ends of fire barrier corridors close automatically when there is a fire, eliminating the passage of air necessary for the spread of fire.

Problem of water supply

Below-freezing temperatures most of the year require melting snow or ice to provide water for personnel and fire fighting needs in some areas. Stations that have lakes in the area have water crews cut holes in the ice and pump water into heated tanks which are transported on sleds called water wannigans. The water wannigans are supplied with hose, pump and nozzles to be used for fire fighting as well as water transportation. The water wannigan tanks are kept full and stored in heated garages ready to be towed by tractors to the scene of a fire.

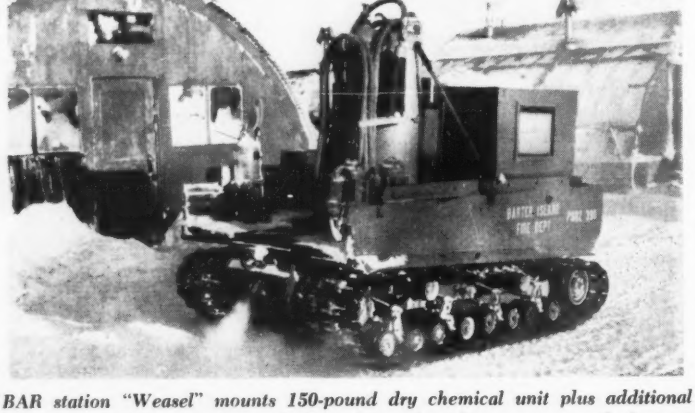
Winter-weight fire turnout coats, boots and helmets are insufficient for personnel protection during the extremely cold weather of the Arctic. Men must wear several pairs of woolen socks, mukluks, padded flight pants, parkas and mittens when fighting fire or they may become severely frostbitten. Such bulky clothing takes time to don and slows down response and action at fire fighting operations.

Fire prevention

Despite all the fire hazards and fire fighting problems, the fire incidence is very low. This is due to the intense fire prevention and fire protection training which is given to all DEW Liners. A training package consisting of films, extinguisher charts, manuals and other literature is utilized by each of the fire marshals assigned to the six sectors for on-job training of all personnel. Every DEW Liner is fire-conscious and has been thoroughly indoctrinated in fire prevention and fire fighting. Various training aids which the writer developed during his 18 years at the New York City Fire College, Queens College and the Mount Vernon Board of Education while teaching fire and safety engineering have again proven their worth.

The objectives stressed in fire prevention are inspection, detection and correction. The fire prevention inspections made by the fire chief, fire officers and members of the fire brigades are utilized for training and planning operations at future fires.

Practice drills are held at least once a month at all DEW Line stations for group participation by all personnel. Unannounced fire alarms are sounded



BAR station "Weasel" mounts 150-pound dry chemical unit plus additional hand extinguishers. Tracked vehicle is in motion along a snow-packed street

from various parts of the station and personnel never know whether it is the real thing until they arrive at the scene of the alarm.

The men respond to the scene of the fire as quickly as possible on foot or via the nearest vehicle with fire extinguishers, demand masks, resuscitators, axes, hooks, etc., and go into action according to well-rehearsed, prearranged plans. The fire chief directs and coordinates the stretching and operation of hose lines and the use of water wannigans and fire extinguishers to confine and extinguish the fire. The chief in charge of the fire brigade at main stations during fires and fire drills sets up a field command post at a strategic location and makes use of two-way radio, public address system, telephone, messengers and prearranged signals, to direct the large number of personnel at various operations.

During practice sessions, when weather permits, Class A and B fires are started at a safe distance from combustible exposures, preferably near the beach area where water pumps and hose lines can be operated. Masks are worn under realistic smoke conditions. All fire fighting tools and equipment are fully utilized to round out the training. Initiative and imagination are used to make these drills interesting, realistic and informative. Drills are carried out under discipline, at a moderate pace with accuracy to insure speed when required at a fire. All personnel are regularly examined by supervisors to test their knowledge of the location of fire alarm boxes, methods of transmitting an alarm of fire, meaning of the various fire alarm signals and proper action to take at fires.

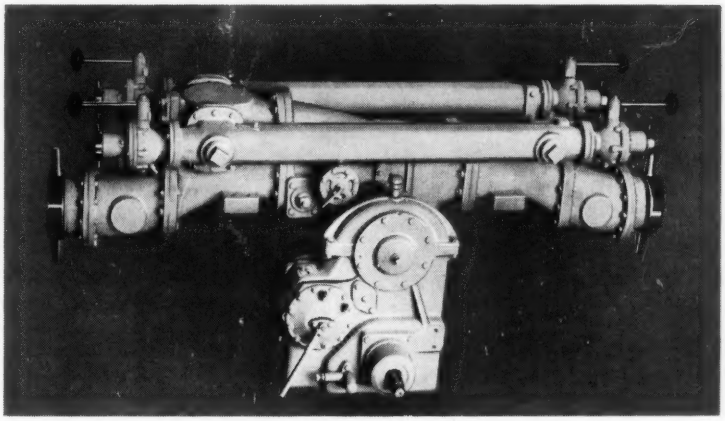
Unannounced fire drills are held frequently by the sector superintendent, station chief, safety engineer and fire marshal to test the efficiency of all personnel in fire fighting. Continuous on-the-job training and refresher courses are given by the station chief and fire marshal to correct and prevent deficiencies. Safety bulletins are distributed and articles are published in the company magazines, describing fires that have occurred and lessons learned. Thorough planning keeps the men informed of new hazards and methods of combating them. The equipment review board, with the aid of advisory panel board members do continuous research to improve fire protection and keep the men supplied with up-to-date fire fighting equipment.

The men on the DEW Line constantly study the fire prevention and fire fighting manuals for their lives

Continued on page 1165

The Inside Story

Why it pays to Specify HALE . . .



Many a bad fire has been stopped in its tracks because an experienced Fire Chief had the forethought to *specify* the right Pumps for his fire hazards—*before purchase.*

To meet this "selective" need, HALE builds FOUR distinct classes of midship pumps for fire trucks with rated capacities ranging from 500 GPM to 1500 GPM.

Pictured above is just one of the FOUR classes of Hale pumps—the "HI-Stage" Type QSM, available in 3 models:

1000 GPM — Model QSM10
1250 GPM — Model QSM125
1500 GPM — Model QSM15
Maximum Working Pressure 350 PSI
Maximum Hydrostatic Pressure 600 PSI

Here is a pump with clean, direct water ways for highest efficiency.

The "Hi-Stage" is unsurpassed, too, for simplicity of operation. The Operator has instant command of the complete pumping range with just one control—the engine throttle.

For complete information on the "Hi-Stage" and the various other HALE amidship models, use the coupon below. Or write us direct, mentioning the rated capacities you require.

Hale Fire Pump Company
Conshohocken, Pa.

☐ 500 GPM ☐ 750 GPM
☐ 1000 GPM and up.

Please send me the New Bulletins on HALE amidship pumps, including the article "Preparing for the Future of Fire Apparatus Pumps":

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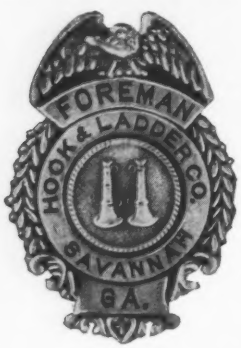

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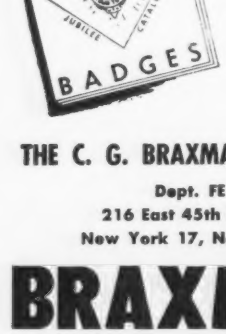

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THE C. G. BRAXMAR CO., INC.

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BRAXMAR BADGES

Center Moriches firemen uncap well prior to regular monthly test

The wells at Center Moriches supply up to 295 gpm, and occasionally up to 330 gpm. A solid stream with good reach is obtained, as the above photo shows

Center Moriches firemen hook up to a well, which resembles a hydrant. When the well is drilled, a 15-foot, wire-wound strainer is driven to the bottom of the 6-inch diameter standpipe. The well is then "surged," i.e., water is drafted from the well and then forced back under pressure. As a result, practically all sand is washed from around the strainer, and gravel in the soil forms a packing around it

Fire Wells Supply Water to Protect Center Moriches

DESPITE the development of new extinguishing agents, water is still the medium most frequently used in fire fighting. An adequate water supply is, therefore, one of the prime concerns of fire fighters. Some communities which have not found it feasible to install hydrant systems, have solved the problem of water for fire fighting by drilling fire wells. Center Moriches, N. Y., on Long Island's south shore, is one of these.

Wells increasing in Suffolk

While quite a few communities in Nassau County still depend on fire wells, no new ones are being drilled there as hydrant systems are installed. In Suffolk County, to the east, where Center Moriches is located, more and more areas are drilling fire wells. These are mainly on the low-lying south shore of the island. For example, practically every community in the Town of Babylon has some fire wells. Lindenhurst has very little hydrant protection, but an extensive system of wells.

Center Moriches' system consists of 13 wells, 10 of them on the main thoroughfare or near it in the business district. In addition, a standpipe line from a nearby canal provides unlimited water supply. In fact, the village has good natural water supply on three sides. Each standpipe is equipped with a 15-foot strainer.

Public ownership necessary

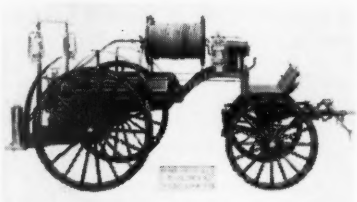
To be recognized for fire protection by the New York Fire Insurance Rating Organization, the wells must be publicly owned or under public control. A building, to receive credit on its fire insurance rates, must be within 600 feet of two wells, each able to supply 200 gpm. The depth from the center of the standpipe outlet to static water level must not exceed 20 feet (a depth of 15 feet is preferred). The outlet must be equipped with National Standard thread, and the department must have at least two pumpers in service, one with a rated capacity of at least 500 gpm. The wells must be tested by pumping at least twice a year.

Since the efficiency of the wells depends on how often they are pumped, Center Moriches pumps its wells at least once a month. In a typical test, water was picked up in from 18 seconds to two minutes depending on the well. Flow ranged from 205 gpm to 295 gpm. On occasions, up to 330 gpm have been obtained. A 500-gpm centrifugal pump was used in the test and one 50-foot length

of hose, with a 1-inch tip on the nozzle, was laid out. The pump pressure reading was from 40 to 95 psi. In only two locations was the water sandy.

Center Moriches has found that its fire wells provide ample water for fire fighting. The department consists of 70 active members, all volunteers, and maintains six companies in service. It has three engine companies which carry a total of 3,200 gallons of water for quick attack, an aerial ladder truck, an emergency unit and an ambulance. It maintains a base radio station, seven mobile and five portable units. □□

Chemical Engine Addition



W. R. Pirsch, Peter Pirsch & Sons Co., supplied this illustration of a double-tank chemical engine as an interesting addition to the article "Copper & Brass," August 1959, FIRE ENGINEERING, by Clarence E. Meek. The horse-drawn unit was built by the company approximately a half century ago.

N. Y. Deputy Chief Drowns; Volunteers Search for Body

Acting Deputy Chief John P. Mullen in charge of the Brooklyn office of the division of fire prevention drowned on November 7, three miles southeast of Jones Inlet, L. I., while on a fishing trip. Efforts of his friends aboard a 36-foot cabin cruiser to rescue him proved fruitless.

Chief Mullen joined the New York Fire Department in 1936. He was promoted to lieutenant in 1941, captain in 1949, battalion chief in 1953, and acting deputy chief 1959. He received the Michael J. Delehanty Medal and Department Medal in 1943 for a rescue, and in 1950 he received a service A rating for meritorious work.

Hundreds of New York officers and firemen volunteered to organize beach and boat patrols to search for the body. They were joined by fire fighters from Long Island communities including Bellmore, Freeport, Long Beach, Massapequa, Merrick, Seaford and Wantagh. New York police helicopters assisted and members of the New York State Police also helped. Others who assisted included the United States Coast Guard and the Coast Guard Auxiliary, U. S. Army units at Ft. Tilden, the U. S. Coast & Geodetic Survey, New Jersey fire departments down the coast to the Highlands and Professor Neumann of the Department of Oceanography, New York University. To this date, Chief Mullen's body has not been recovered.

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103½" W.B.—115 H.P. Engine—Full Cab—500 G.P.M. Mid-Ship Pump Class "A"—200 Gal. Booster Tank & Reel—150'-1" hose—hose bed capacity 1000' of 2½"—Ladders, Axe and Pike Pole—Compartment 20" x 20" x 60"—Complete Fire Equipment as pictured—2 lengths of 4" suction hose—write for complete specifications and Prices.

THE CHAMPION WILLYS 4-WHEEL DRIVE FC-170 FIRE TRUCK

Here is a Fire Fighting Truck that will do everything that a large one will do, and can go places and fill the need that others CANNOT. Powered by the famous Super Hurricane, 6 cylinder, 115 H.P. engine.

Off the road fire fighting, no other can follow the Willys Champion Fire Truck. You can pump with truck in motion.

Suited for Villages, Cities, Townships, as well as Industrial and Commercial Fire Protection.

Both trucks available with four stage high pressure centrifugal pumps for delivery of 60 gpm at 1000 psi.

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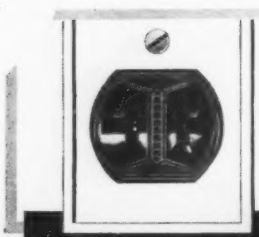
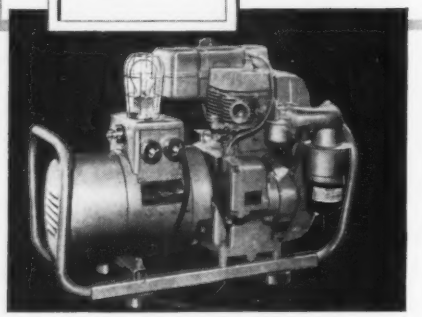
Also Available—L6226 below



You can ALWAYS have power . . .



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anytime
in emergency
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from highlines

Here is a portable power generator that comes to you in any one of five sizes, 600 to 2500 watts. Two men can carry the biggest one. You can use it to operate standard motor driven equipment and tools in remote locations away from highlines, or you can use it to keep you going when normal electric supply is interrupted. Handy to have anytime... vital in emergency. Other mobile units available up to 10kw. Write for complete information: Fairbanks, Morse & Co., Chicago 5, Illinois.

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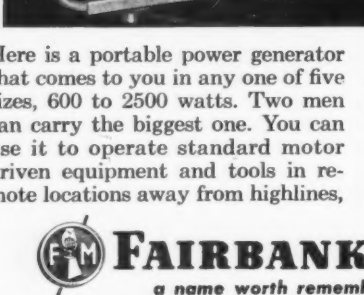

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Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

STERLING SIRENS

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Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL 20 SIRENLITE
FIRE ALARM SIREN
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Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
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Questions and Answers

Deluge Problem

Question: **A 1½-inch nozzle (K = .135) on a deluge set is being supplied by two 2½-inch lines each from a different pumper. One line is 500 feet long and the other 300 feet. The nozzle pressure is 70 psi and the flow through each line is the same. What would be the approximate engine pressure of the pumper farthest from the nozzle?**

R. M.

Answer: The inclusion of "K = .135" can be misleading, as the answer may be found without employing it. Engine pressure equals nozzle pressure plus friction loss. The problem states that the flow is the same through each line. Therefore, by finding the total discharge and dividing by 2, it will be possible to calculate the friction loss per hundred feet in either line by the formula $2Q^2 + Q$. Multiplying by the length of the longer line and adding to the nozzle pressure will provide the engine pressure in question.

$$\text{Discharge} = 29.7 \times D^2 \times \sqrt{P}$$
$$= 29.7 \times (1.5)^2 \times \sqrt{70}$$
$$= 29.7 \times 2.25 \times 8.36$$
$$= 558 \text{ (NBFU tables show exact agreement)}$$
$$558 \div 2 = 279, \text{ the discharge from each line}$$
$$\text{Friction Loss} = 2Q^2 + Q$$
$$= 2 \times (2.79)^2 + 2.79$$
$$= 2 \times 7.78 + 2.79$$
$$= 18.35 \text{ (NBFU tables show 18.7 psi as friction loss for 280 gpm)}$$
$$\text{Engine pressure} = 18.35 \times 5 + 70$$
$$= 163 \text{ psi approximately}$$

Drafting Hot Water

Question: **Are there any cases on record where it was necessary to draft hot water?**

H. H.

Answer: We have no statistics of such operations but one interesting case occurred as a result of a hurricane which struck the New York area on November 25, 1950. Engine 5, FDNY, responded to an emergency at the Willard Parker Hospital. Flood waters had inundated the hospital's cellar and a tunnel which contained steam pipes. A pit in the tunnel was filled with water which had reached a very high temperature.

Clouds of vaporizing steam were entering a hospital building in which there were a number of iron lung patients. Fearing the condensing vapor would short-circuit the motors of the iron lungs, it was decided to pump out the cellar by drafting with the engine.

Since it was impossible to maintain suction with the hot water, Motor Pump Operator Bernard Leddy (now lieutenant) attached a line to a nearby hydrant and

connected it to the remaining unused suction inlet on the pumper. The hydrant was opened to permit a small continuous flow of cold water into the pump to mix with the hot water. This reduced the temperature below the critical evaporation point at the sub-atmospheric pressure within the pump casing and the water in the cellar was eventually removed. □□

Obituaries

T. A. Greely

Thomas A. Greely, special agent for the National Board of Fire Underwriters for the past 38 years, died suddenly on November 20 in Chicago. He had been a member of the National Board's arson department since 1921, having the longest term of service of any active agent. Before joining the National Board, Mr. Greely served as deputy state fire marshal for the State of Illinois for eight years.

Paul V. Galvin

Paul V. Galvin, 64, founder of Motorola, Inc., Chicago, Ill., and chairman of its board of directors, died November 5 in a suburban Chicago hospital. With his brother Joseph, he first started in 1928 in the car radio field and saw the business grow from $565 to a gross of $250 million a year. He is survived by his wife and a son, Robert W. Galvin, president of Motorola, Inc.

C. R. Conklin

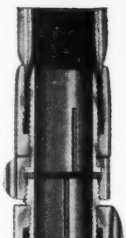
C. R. Conklin, 63, general manager of Republic Rubber Division, Lee Rubber & Tire Corp., Youngstown, Ohio, died in his sleep November 3, in the Edgewater Beach Hotel, Chicago, while attending the annual meeting of the Central States Industrial Distributors' Association.

Mr. Conklin was transferred to Youngstown last March as assistant sales manager, having previously served as eastern district manager with headquarters in Philadelphia. He advanced to general sales manager on July 1. □□

Paterson Adopts New Fire Code

Paterson, N. J., recently adopted a new fire prevention code based on the National Board of Fire Underwriters' code, but with certain modifications to meet local conditions. The new code bans the use of portable kerosene heaters.

An ordinance to amend and supplement the city's 1957 building code was also adopted. It covers such items as fire doors, exits, types of construction, fees for permits and other related items.



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1. FULL FLOW—no significant reduction of internal diameter. Pressure is assured.
2. STREAMLINED—round-edged design, no projection.
3. INTERNAL EXPANSION—prevents shrinkage of the hose at the coupling.
4. ACCURATELY MACHINED—always the same . . . interchangeable.
5. REMOUNTABLE—can be removed and re-attached with a key any number of times without cost.
6. WEIGHT—no heavier than comparable expansion type coupling.

TESTED for 1400 lbs. pressure and 2400 lbs. pull under full pressure.

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Recognizing the trend toward higher and higher pressures in fire fighting, Bar-Way has developed a revolutionary coupling that will withstand the pressure and the pull. This new coupling is designed to fire fighting specifications. It guarantees full flow, full pressure, it is streamlined to slip over obstructions, and it can be interchanged anywhere at any time without damage to either the tube or fabric. Specify Bar-Way! Write Bar-Way Mfg. Co., Stamford, Conn.

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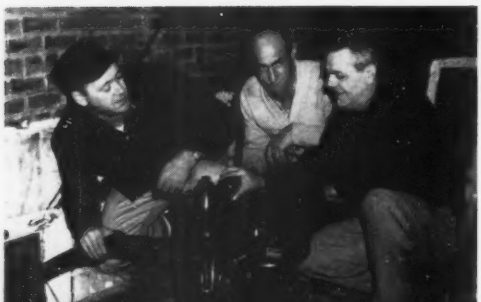

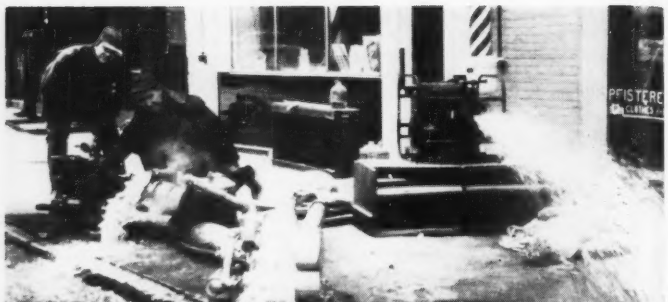

Left: Members of the Spring Mill Fire Co. No. 1, Conshohocken, Pa., are shown completing operations with portable pump during April 1958 flood problem. Using two portables, the company pumped out 17 cellars of homes, including one which held an estimated 400 gallons of water. Right: Four portable pumps are emp'oyed to rid Fremont, Ohio, business block of flood waters from Sandusky River during winter flood of 1958

REMOVING WASTE WATER

Continued from page 1125

1. Limit the length of supply and discharge lines as much as possible to lessen friction loss. At the same time provide sufficient hose in the original layout to permit later removal into the lowest or innermost area of the building.

2. Use the largest diameter discharge hose possible.

3. Avoid kinks in the line.

4. Keep eductor intake well below the surface of the waste water, yet avoid placing it on the floor or bottom of the area until the operation is nearly completed.

5. Friction loss in long discharge lines can be reduced by inserting a wye as close to the eductor as possible and attaching parallel lines.

6. Where necessary due to limited working space, it may be expedient to connect a length of hard suction to the intake of the eductor. This makes it unnecessary to place the device it-

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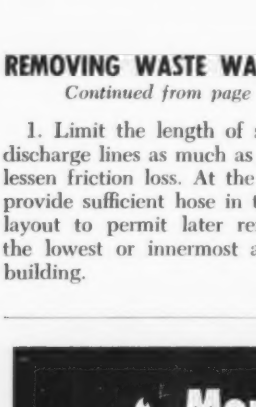
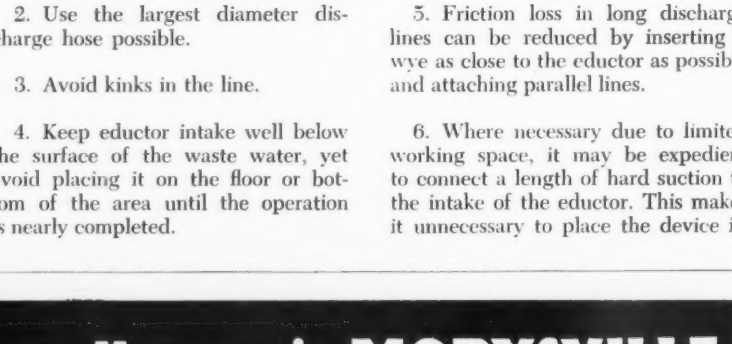


F-116 TANKER



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self in the water. When used in this manner, a strainer should be employed.

A foaming white discharge indicates inefficient operation or nonfunctioning. Check for the following conditions: (1) Air entering eductor; (2) head too great; (3) eductor clogged by debris; (4) supply or discharge lines too long, kinked or blocked; (5) insufficient engine pressure.

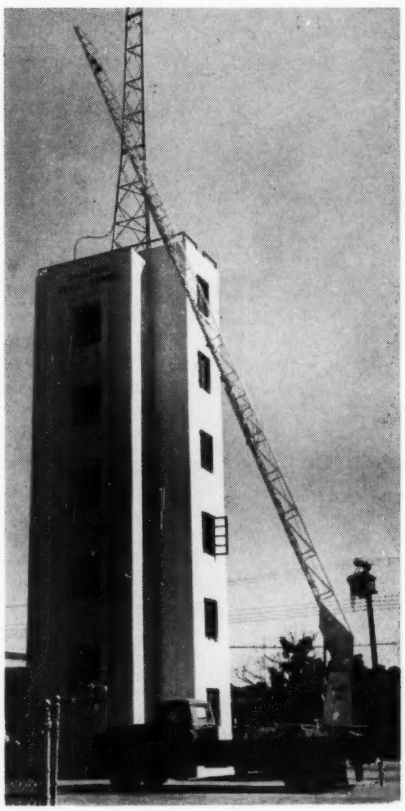
It is generally preferable to operate without a strainer which has a tendency to frequent clogging. Small debris will pass directly through the eductor and be carried away. A large wire basket, perforated ash can or other improvised device will keep large debris from reaching the intake. If such a device is not available, the strainer should be placed in position when the level of the water drops near the bottom. If the eductor clogs, it is usually not necessary to remove it from the water. Shut down the source of supply and permit the head of water in the supply and discharge lines to backflow and clear the stoppage.

Using portable pumps

A very popular method for removing unwanted water is by means of portable pumps. These lightweight units are readily adapted for this service as they are easily carried to a convenient location for performing the necessary task. The limitations of a portable pump must be recognized at all times. Suction lift and friction losses are important considerations as the small pumps are not designed for the same efficiency of operation that may be expected with larger apparatus pumps. Rather they are a compromise between size, weight and performance.

Most portables used in the fire service will deliver about 100 gpm under rated operating conditions and many will exceed 200 gpm for quickly removing large quantities of water. Maximum capacity may be realized at any practical lift if it is possible to discharge the water directly from the pump outlet. The addition of even one length of hose immediately reduces the output due to the head losses introduced.

The generation of hazardous exhaust fumes from the driving engine of a portable pump must be borne in mind at all times. These small units should be operated from the exterior with the suction hose lowered to the water to be removed. One type of portable pump on the market eliminates the problem of dangerous fumes, and at the same time, removes the



SPONCO AERIAL LADDER

The building shown in the photograph is the McAlpine Drill Tower (Oklahoma City Fire Department), and the aerial shown is the all-new, all-steel SPONCO AERIAL LADDER. The tower is a full five stories high yet the all-new SPONCO, used as a water tower, could pour water *down* on the roof of the tower—the accepted way to fight fires.

The SPONCO is an all -steel unit with all operations powered—raise and lower, fly extension and retraction, and turntable rotation. The mechanical refinements engineered into the SPONCO add greatly to the speed, smoothness and operational efficiency of the unit.

The SPONCO, a product of the Memco Aerial Ladder Company, being entirely new has been given the new name—derived from the name of our parent company—SPONHALTZ ENTERPRISES, INC.

The new SPONCO is priced within the reach of the smallest city needing an aerial, and your favorite fire truck manufacturer can build one into your new fire truck. Investigate TODAY — for details write or telephone.

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Oklahoma City 18, Oklahoma

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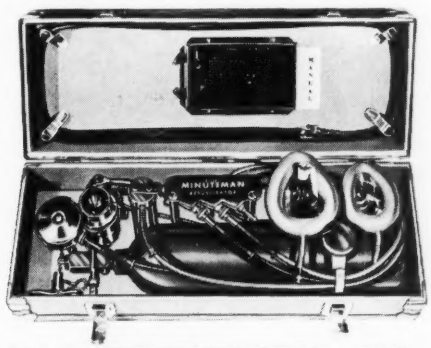

Here's the MINUTEMAN RESUSCITATOR in a nutshell:

SMALL — 24½" x 8¾" x 7¾".
LIGHT — under 30 lbs. with tank.
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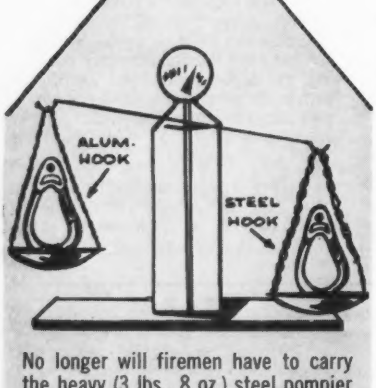

No longer will firemen have to carry the heavy (3 lbs., 8 oz.) steel pompier hook on their life belts. Now also available Atlas Forged Aluminum Pompier Hooks at half the weight (1 lb., 10 oz.).

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Our new featherweight (1 lb., 10 oz.) Aluminum Pompier Hooks are especially forged and treated not only to retain but to surpass the safety factor of our steel hooks. Atlas Aluminum Hooks are tough and durable and meet our strictly enforced safety requirements.

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CHART 2—Table Showing Minimum Discharge Which Should be Expected of a Pumper in Good Condition Operating at Draft at Various Lifts.

CONDITIONS: Operating at Net Pump Pressure of 150 psi; Altitude of 1000 feet; Water Temperature of 60°F; Barometric Pressure of 28.94" Hg (poor weather conditions).

Rated Capacity, Pump			500 gpm		750 gpm		1000 gpm		1250 gpm	1500 gpm		
Suction Hose Size			4"	4½"	4½"	5"	5"	6"	6"	6"	Dual 5"	Dual 6"
Lift in Feet	4	20' Suction Hose (Two Sections)	590	660	870	945	1160	1345	1435	1735	1990	2250
	6		560	630	830	905	1110	1290	1375	1660	1990	2150
	8		530	595	790	860	1055	1230	1310	1575	1810	2040
	10		500	560	750	820	1000	1170	1250	1500	1720	1935
	12		465	520	700	770	935	1105	1175	1410	1615	1820
	14		430	480	650	720	870	1045	1100	1325	1520	1710
	16		390	430	585	655	790	960	1020	1225	1405	1585
	18	30' Suction Hose (Three Sections)	325	370	495	560	670	835	900	1085	1240	1420
	20		270	310	425	480	590	725	790	955	1110	1270
	22		195	225	340	375	485	590	660	800	950	1085
	24		65	70	205	235	340	400	495	590	730	835

NOTES: *1—Net pump pressure is 150 psi. Operation at a lower pressure will result in an increased discharge; operation at a higher pressure, a decreased discharge.*

2—Data based on a pumper with ability to discharge rated capacity when drafting at not more than a 10-foot lift. Many pumpers will exceed this performance and therefore will discharge greater quantities than shown at all lifts.

Reproduced from "Fire Department Pumper Tests and Fire Stream Tables," Sixth Edition 1959, Courtesy the National Board of Fire Underwriters.

necessity for hard suction hose. It is an electrically driven portable which may be entirely submersed in water for operation. The electrical power source may then be placed in any convenient location. A disadvantage of the presently available models is the limited capacity.

Fire apparatus pumps

It has been a general rule of the service that fire apparatus not be employed for dewatering purposes. Being emergency apparatus, it is risky to subject them to such service where grit and other foreign matter may cause excessive wear or damage to the pump. However, there are extenuating circumstances where the large pumps are most efficiently employed. This condition may exist following a flood caused by a cloudburst, hurricane, etc., which affects an extended area. In order to quickly relieve the discomfort of the citizens and contribute to the health and general welfare, it may be necessary to use pumpers.

The same problem exists with apparatus pumps as with portables, although not to the same degree. Suction lift must be considered as well as discharge head. It is possible that volumes exceeding the normal ratings of the pump may be achieved by limiting the lengths of hose on the suction and discharge side. Since pressure is of no great importance, open hose butts or large deluge nozzles may be employed. In this manner, the greatest percentage of total work performed by the pump is devoted to "lifting" a large volume and the job time will be substantially reduced. Friction loss in the hard suction hose connected to the pump is definitely a consideration. The hose should be as large a diameter as is possible and only as long as is necessary to perform the task. Reference to Chart 2 will quickly indicate the performance which can be expected of a pumper in good operating condition. □□

DEW LINE

Continued from page 1157

depend upon them in these isolated areas. They know that if they do not put a fire out within the first few minutes, that the fire will put them out—in the cold.

As an additional safety factor, survival huts have been located at a safe distance from each station against the possibility of complete loss of a station. These huts are stocked with survival kits containing Arctic gear, C-rations, first-aid kits and fire extinguishers. In case of necessity, emergency radio communications equipment is provided to contact nearby stations for assistance. Supplies would then be airlifted or dropped by parachute.

Every DEW Liner is aware that uncontrolled fire is the greatest threat to his existence and has been well trained in all facets of fire protection. Each man is ready to fight fire under the most adverse conditions and is capable of going into action individually, or as part of a smoothly operating team. □□

October Fire Losses

Estimated fire losses in the United States during October amounted to $71,160,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $71,160,000 loss represents a decrease of 3.0 per cent from losses of $73,393,000 reported for October 1958, and a decrease of 14.3 per cent from losses of $83,027,000 for September 1959.

Losses for the first ten months of 1959 now total $872,047,000, a decrease of 1.4 per cent from the first ten months of 1958, when they amounted to $884,204,000.

These estimated losses include an allowance for uninsured and unreported losses.

Suffolk Holds Annual Field Conference

The Fire Chiefs' Council of Suffolk County, N. Y., held its Fifth Annual Field Conference on September 19 and 20 at the new County Civil Defense and Firemanic Training Center, Yaphank, L. I., N. Y. Speakers for the Saturday evening session included Fire Marshal Elliot Jayne, Williamsburg, Va.; Chief Andrew Flanagan, Connecticut State Fire Training Program; Lieutenant Andrew Kiel, editor, WNYF; and Chief Inspector A. Russel Richards, Suffolk County Police. On Sunday, 30 of the county fire departments gave demonstrations of fire fighting techniques. Problems ranged from air crashes through vehicular fires and included high and low-pressure fog applications.

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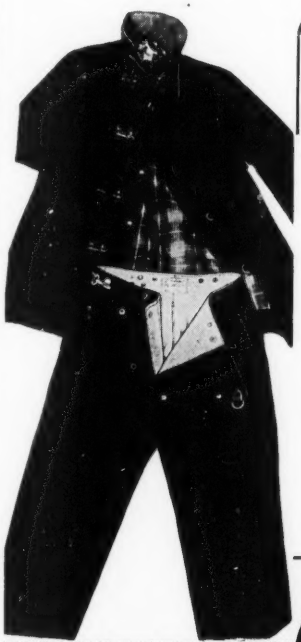

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Persons in the News

Sweitzer Named To Head Morgantown

George E. Sweitzer, Jr. has been named chief of the Morgantown, W. Va., Fire Department, succeeding recently retired Chief John P. Samsell. Chief Sweitzer joined the department as a callman in 1936. He received an appointment as a full-time fire fighter in 1941 and was promoted to captain in 1956.

Oliver A. Sevier Named Baton Rouge Chief

Oliver A. Sevier was named chief of the Baton Rouge, La., Fire Department on November 6. He had previously held the post of first assistant chief, and made the top score among seven who passed the civil service test for chief. He joined the department when it had only four stations, five pumpers and one aerial truck, and is a veteran of 34 years service.

Chief Sevier succeeds Chief Frank O'Callaghan who served on a provisional basis following the death of Chief Robert A. Bogan. Chief O'Callaghan expressed his desire to retire at the time of Chief Bogan's death, and did not take the examination for chief. He agreed to stay on until a successor could be selected. O'Callaghan joined the department on January 1, 1922.

Ryan Named to G-E Post

Donald M. Ryan, former chief of fire prevention, Utica, N. Y., Fire Department recently retired after 27 years of service and has accepted the position of specialist–safety and security, General Electric Co., Utica plant. In his new capacity he will be responsible for safety and security at the three Utica G-E locations.

Chief Ryan joined the Utica department in 1933 and was promoted to lieutenant in 1940. During World War II he was a lieutenant in a U. S. Navy combat fire fighting group and spent 26 months in the Pacific theatre of operations. He returned to the fire department in 1946 and was promoted to captain. In February 1953 he was named deputy chief and became chief fire inspector in August of that year.

Chief A. H. Koltonski Honored by Rutland

Chief Alfred H. Koltonski, Rutland, Vt., Fire Department was recently the guest of honor, with Mrs. Koltonski, at a banquet commemorating his 35 years as chief of department, and their 40th wedding anniversary. More than 120 guests assembled at the Hotel Bardwell on November 5th to honor the couple.

Chief Koltonski joined the Rutland department in 1912 and was appointed chief on October 6, 1924. He has been president, Vermont State Fire Fighters Association and the New England Association of Fire Chiefs, and for the past 20 years has been a member of the executive board of the latter.

Fire service officials attending the testimonial included Chief Alfred T. Wright, White River Junction, Vt., vice president, New England Association of Fire Chiefs; Chief Robert Patch, Pittsford, president, Vermont Fire Fighters Association and Deputy State Fire Marshal Chester M. Kirby, Montpelier.

Drayton Joins I.A.F.C.

The International Association of Fire Chiefs has announced the appointment of Al Drayton as director of public relations. Formerly director of public information of the National Board of Fire Underwriters, he has had broad experience in nearly all phases of public relations and news writing. Before joining the National Board in 1952, he was assistant director of media relations for

the Licensed Beverage Industries, Inc. Prior to that he was assistant to the promotion director of the National Association of Manufacturers, and before that a reporter and rewrite man on the *Newark News*, Newark, N. J.

D. B. Sherwood Retires

Donald B. Sherwood, assistant general manager of the National Board of Fire Underwriters since 1954, has retired after 41 years of service in the insurance business. Mr. Sherwood served as general adjuster for the National Board during the eight years prior to his appointment as assistant general manager. He was administrator of the National Board's "Catastrophe Plan," and was closely identified with the Board's arbitration program, as well as the development of Guiding Principles.

Father and Son Retire From New York F. D.

Fireman William E. Wobbekind and Fireman Joseph Wobbekind recently retired from the New York Fire Department. The event was unusual as they are father and son. To further add to the oddity is the fact that the senior Wobbekind spent all of his 40 years service in Engine 35 while son Joseph recorded 20 years in the same company.

N. Y. Safety Director Resigns Post

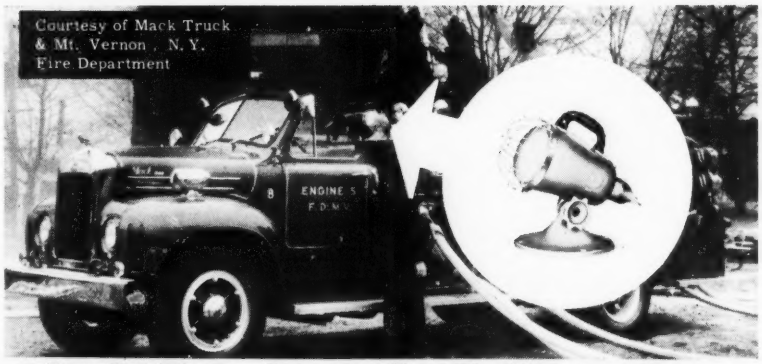
Walter E. Bligh, director, New York State Division of Safety, resigned his position on November 10. He will become assistant to the chairman of the State Republican Party. Governor Nelson A. Rockefeller designated Deputy Director George H. Proper, Jr., as acting director. □□

Sentenced to Life Term For Setting Fatal Fire

Frank Brown, 55-year-old Brattleboro, Vt., druggist was sentenced to life imprisonment November 5 after he was convicted of setting a fire that resulted in a death. Lyman Streeter, 74, retired barber died in the $100,000 fire last December 26. The jury which determined the sentence could have sentenced Brown to death. Brown's attorney plans to appeal the verdict.

Tot Dies Playing With Gasoline

A 23-month-old girl died on September 5 in Birmingham, Ala., after filling her toy wagon with gasoline. She was pretending to run a service station. Robin Yarbrough pulled her little wagon into a utility room where flames of a hot water heater ignited the gasoline. Robin was killed and her father severely burned.



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Why not get acquainted with CIRCLE-D PORTABLE LIGHTS, Visit your distributor. Ask him to show you a CIRCLE-D portable. Feel the comfort of the heat and cold insulating plastic handle, it's light weight yet rugged construction. Stand it on it's large tip proof base. Position the light up or down. See how it stays put in any position. Examine the sure contact twist lock line cord socket. Cord can't pull loose. Remove the guard, unscrew the lamp, examine the ring gasket and spring mounted socket. Incidently you had to pull the bulb forward to unscrew it. You have discovered why the lamp cannot vibrate loose. By this time you will have proved to yourself why CIRCLE-D's popularity has soared. You'll appreciate it even more when that emergency demands a good dependable flood or spot light.

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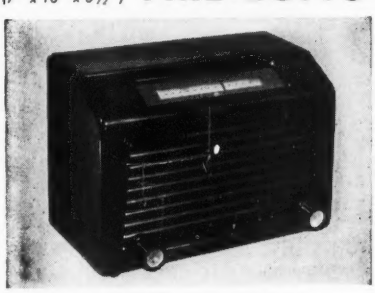

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Specify desired frequency. Tuning range 1.3 mc.

- DRIFT-FREE
- Automatic squelch
- 7 tubes plus rectifier
- 110-120 volts 30 watts
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Money back guarantee
37.50 post paid

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The modern way to collect donations!

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Donations can now be given on the popular budget system. Donors fill cards with quarters and dimes in dated slots, having them ready for collection at the allotted time. A tested and proven way to *increase* returns in your fund raising campaigns.

USED SUCCESSFULLY BY FIRE DEPARTMENTS ALL OVER THE NATION!

WRITE OR PHONE FOR SAMPLES, DETAILS REGARDING DISTRIBUTION AND PRICES TODAY.

HANDFORD BROWN CO.
INCORPORATED
COYTESVILLE • NEW JERSEY
WINDSOR 4-0454

MANUFACTURERS' NEWS

Continued from page 1136

Lightweight Portable Pump

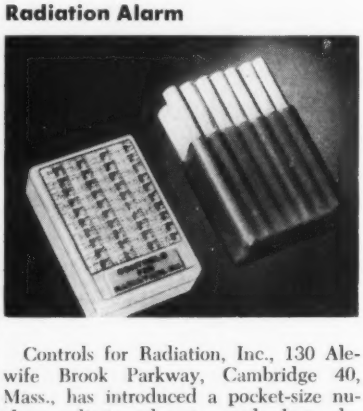
A portable fire pump weighing only 50 pounds was introduced by Goodyear Pumps Inc., 9 Rockefeller Plaza, New York, at the recent annual conference of the International Association of Fire Chiefs in Grand Rapids, Mich.

Featuring aluminum body construction, Goodyear's positive displacement pump is said to be both self-priming and operable in any position without loss in prime. It is claimed the unit will deliver 50 gpm at 100 psi while operating at a 28-foot lift.

Circul-Air Canadian Plant

The Circul-Air Corp., Detroit, Mich., announces the expansion of its Canadian operations with its hose dryers and hose Porto-Raks now being manufactured in that country by Canadian Baker Perkins Limited, Hansen Road, Brampton, Ontario. The Brampton plant, in the Toronto area, was recently expanded to accommodate the production facilities.

Radiation Alarm



Controls for Radiation, Inc., 130 Alewife Brook Parkway, Cambridge 40, Mass., has introduced a pocket-size nuclear radiation detector and alarm designed to give instant warning of hazardous radiation. The self-contained dose-rate alarm is said to respond to radiation as low as 0.5 r/hr with a loud whine which rises in pitch as radiation increases. It is claimed the sound is audible for some distance and is a practical warning for use where smoke or fumes may obscure vision. The battery-powered unit uses a new solid-state sensing element and a transistorized electronic circuit. It was developed specifically for fire, police and civil defense organizations.

Tank Fire Fighting Aid

National Foam System, Inc., West Chester, Pa., is manufacturing the "Puncture Plate," a steel assembly holding a strong plastic sheet or "skylight." Installed on fixed-roof liquid storage tanks, the device admits light and air to the tank interior during maintenance work, and in addition, facilitates the use of hydraulic foam towers in case of fire. The plastic is vaporproof, yet readily penetrated by the gooseneck of a foam tower in the event of fire.

Portable Air Foam System

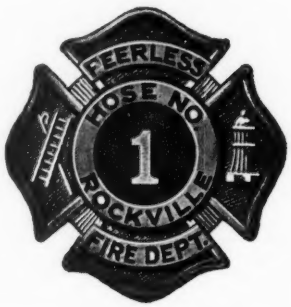
The Fyr-Fyter Company, 221 Crane Street, Dayton, Ohio, has announced a series of eight new portable Foam Paks. Available in a full range of sizes for use with ¾-inch booster hose or 2½-inch hose lines, each is a complete air/foam

system. Components include an Underwriters' approved lightweight aluminum constructed playpipe (20, 40, 60 or 120-gpm size), a pick-up tube, and a supply of 3 per cent high-expansion foam compound.

Hannay Reels Approved by FM

A certificate of approval for hose reels used in fire protection has been granted by Associate Factory Mutual Fire Insurance Companies to Clifford B. Hannay & Son, Inc., Westerlo, N. Y. Hannay reels will now be listed in the Approved Equipment Manual published by the Factory Mutual Engineering Division as a guide to industrial members in selecting fire protection equipment.

BADGES
of authority



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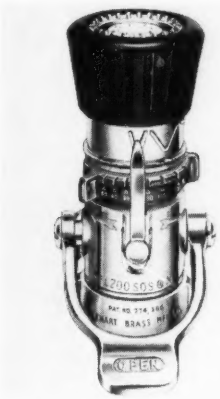
FYRUMBRELLA **enables men to stay right up there — no need to be "run out" by roaring heat! No more lurking behind pieces of metal, bed springs, doors, wetted down tarps or blankets.**

● Five feet square, when open, the aluminized surface deflects 95% of the radiant heat. The tough **GLASS** cloth construction makes it non-burnable. Three men with 2½" lines and any type nozzles may work through the hose port. Adequate forward vision is provided by eye ports on each side. The **FYRUMBRELLA,** weight only 9½ lbs., folds so compactly that it fits inside a section of 4" suction hose. The **FYRUMBRELLA** combines an aluminized reflective surface on strong, non-burnable glass cloth backed by a coating of neoprene for greater strength. Hardware is of a rugged steel construction to withstand raps and bumps. Write for complete information on Fyrumbrella, other Fyrepel Fire Fighting Equipment and Heat Protective Clothing.

FYREPEL PRODUCTS, INC.
Dept. A Box 503 Newark, Ohio

Select-O-Flow Nozzle

Elkhart Brass Mfg. Co., Inc., Elkhart, Ind., recently announced a new constant flow 1½-inch nozzle named Select-O-Flow, which will handle variable gallonage from 60 to 125 gpm at 100-psi nozzle



pressure. A sleeve-type gallonage indicator surrounds the barrel of the nozzle and by merely turning this sleeve, the desired gallonage can be chosen without shutting down the line. In addition, stream indicators permit selecting narrow to wide fog patterns and straight stream.

Industrial Flashlight Cell

Burgess Battery Company, Freeport, Ill., has developed a new industrial flashlight battery which, it is claimed, yields two and a half times more service life than standard D-size flashlight cells. Said to be sealed in steel, the new heavy-duty cell is guaranteed leakproof.

Ferno Expands

The home office and manufacturing plant of Ferno Manufacturing Company, Greenfield, Ohio, has recently been enlarged. The enlarged facilities include more space for engineering and production departments, and an entirely new office and display room.

High-Output Generator

GenerAc Sales Inc., 124 South Main Street, Wales, Wis., has added a 5,000-watt, 220-volt, 3-phase GenerAc to its line of alternators. The model CDE5000 unit is designed for vehicles requiring a heavy-duty source of 60-cycle a.c. power.

New Radioactivity Monitor

A new air and area radiation monitor is offered by Nuclear Measurements Corp., 2460 North Arlington Avenue, Indianapolis 18, Ind. Known as Windjammer, Model WJ-1, it is designed for protection of personnel wherever normal radioactive levels are low.

Please turn page

Morning Pride

"SCOTCHLITE"
REFLECTIVE FABRIC

SAFETY CONDITIONED FOR YOUR PROTECTION • **"SCOTCHLITE"** IS AVAILABLE ON ALL TYPES OF COATS.

Free Literature On Request

See Your Local Dealer or Write
MORNING PRIDE MFG. CO.
1986 HOME AVE., DAYTON 7, OHIO

THE EFFECTIVE WAY TO CLEAR SMOKE FROM BURNING BUILDINGS

- **Clears Smoke**
- **Helps Locate Flames**
- **Reduces Damage**
- **Reduces Odor**

This fan is constructed for trouble-free service. The 16 inch 3-blade propeller gives unmatched air moving capacity. It may be used as a blower or exhauster and can be in a vertical or horizontal position.

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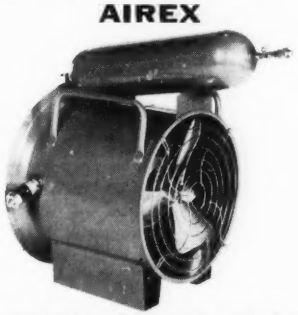

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Write for detailed information

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30 Years in the Air Moving Equipment Industry
1238 Speer Boulevard Denver 4, Colorado

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1936 Pirsh Pumper with 1000 g.p.m. Rotary Gear Pump, 500 Gal. Booster Tank and Booster Reel.

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Box 623
Billings, N. Y.
Tel. ORiole 7-5197

FOR SALE

Hahn 75 ft. tractor trailer aerial ladder truck, with 177 feet of ground ladders plus other extra equipment.

PHOENIX FIRE ENGINE CO. #2
POTTSVILLE, PENNA.

SALESMEN WANTED TO SELL UNDERWRITERS APPROVED COMMERCIAL OR HOME FIRE DETECTION EQUIPMENT.

Provide a needed service in your community with your own profitable business. Write today for details.

FIRE-LITE ALARMS, INC.
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1947 Ward LaFrance Quad, 500 gallon pump, 4 outlets.
240 feet of ladders, booster tank, reel, etc. In excellent condition.
Priced reasonable. For complete specifications, write to:

Chief Wilbur Albright
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Bristol, Pa.

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1955 Cadillac Superior $4750
1953 Cadillac Superior $2550
Both are straight ambulances with low mileage, and just completely overhauled. Fully equipped with Sterling #30 siren and Beacon on roof. Tunnel lights, spot lights, alternator, Washington cot and mattress, compartments, heaters, etc.

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255 Exchange Street
Rochester 8, New York

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Announces the Publication of

FIREMANSHIP I

A complete, basic manual of firefighting methods. For the fireman with one or two years experience. An excellent guide for Fire Company Training Programs. Gives background for actions and decisions. Covers hose laying and apparatus positioning techniques. Prepublication price $1.25. Send remittance with order to:

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Key chains with one-inch plastic fire hats or hydrants, assorted 4-inch plastic fire trucks, 7-inch red plastic fire hats. Quantity prices on request.

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Order today from
ROBERTS CO., BOX 444E
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Write for free catalog.

IDENTIFY YOUR CAR FOR $1.00

3 EMBLEMS—4½" in diameter. Words "FIRE DEPARTMENT" in red. Easy to apply—press it on by hand (no screws or water needed). Use them on windows, bumpers, or trunk.

SEND $1.00 today for your 3 EMBLEMS

F D PRODUCTS—DEPT. C-7
514 West Englewood Ave.
Teaneck, N. J.

MUNICIPAL FIRE CHIEF

Applications for the position as Chief of the Fire Service involving a Department composed of twelve paid and fifty volunteer fire fighters, 85 ft. ladder truck, 3 pumpers and rescue ambulance may be filed at the Office of the City Clerk-Treasurer, #8 Columbia Avenue, Takoma Park, Maryland before January 31st 1960. Minimum starting salary must be stated in application with complete resume of qualifications, past experience, reference etc.

FOR SALE

One (1) 1941 Type 190 American LaFrance 65-ft. Aerial Ladder Truck with 100 GPM booster pump. 150 gallon water tank. 208 ft. of ground ladders and all standard equipment. Truck is now in service and in excellent condition.

Contact: John A. Marshall.

UNION HOOK & LADDER CO.
Mount Kisco, New York

FIRE TRUCK BARGAINS

1960 Ford, Chevrolet, or International Class A Pumper with 500 GPM Pump and 500 gallon Tank built to Underwriters Class A Requirements. for only $7,000.00

NEED a siren or Red Light? Consult my low prices on TOP QUALITY USED SIRENS AND BEACON RAY LIGHTS. Trade-ins accepted.

Terms arranged if desired.

EDWIN R. JENNY
2024 Heitman Street
Fort Myers, Fla.

ABSOLUTELY FREE

Yours for the asking. Send post card today requesting Folder F showing complete line of belt buckles with your name, initials, latest Fire Engines, Pumpers, Hook and Ladder, Rescue Wagons, Salvage Trucks and other Firemen enameled emblems which are also available on Tie clasps, Lapels, Money clips, Cuff Links, and Key Chains. Write:

HOOK-FAST SPECIALTIES
Box 1425 Providence, R. I.

FIRE DEPARTMENT GREETING CARDS AND PARTY SUPPLIES

25 Assorted Birthday, Get Well and Sympathy Cards with Envelope $2.50.

PARTY PACKAGE. AN IDEAL GIFT.

25 Place Mats, 25 Place Cards, 50 Coasters and 50 Cocktail Napkins. Fire Motif. $4.25 Ppd.

FREE BROCHURE. XMAS CARDS, ETC.

HOBBY MATS
Box 145 Dept. F BALSAM LAKE, WISC.

PART TIME SALESMEN

We need whole or part time representation. No experience necessary. We build quality fire trucks, and are distributors for fire hose and all allied products. We especially invite Firemen and Extinguisher men to answer. Territory in your immediate vicinity may be open. We furnish personal help.

CENTRAL FIRE TRUCK CORP.
BOX 158, MANCHESTER, MO.

FREE RESCUE MARKING KIT

Will be sent to any Fire Official interested in marking the homes of the AGED, BLIND, BEDRIDDEN and HANDICAPPED in his community. For FREE KIT, write to:

F D PRODUCTS—DEPT. FE-13
514 West Englewood Ave.
Teaneck, N. J.

SPECIAL PURCHASE SALE

Have purchased entire over-run of Gov't contract for Navy Fireman's boots; latest U. S. Spec. (April 1958), with flexible steel plate through sole and steel safety cap toe, sizes 7-12.

PRICE $12.00 Per Pair
ATKINS BROTHERS
P. O. Box 1329 Rochester 3, New York

FOR SALE

1942 Seagrave, Triple Combination. 750 G.P.M. 200 Gal. Booster Tank, V-12 cyl. Motor 250 H.P. Navy Surplus, low mileage. For quick sale $2500.00 F.O.B. Chicago.

W. ACKERLUND
2527 Oak Street
River Grove, Illinois
Phone: Gladstone 3-2284

FOR SALE

Used 1946 Chevrolet Squard fire truck.
Used 1943 International 500 GPM midship pumper with 500 gallon water tank.

MAYNARD FIRE APPARATUS CO.
MARSHFIELD, MASS.

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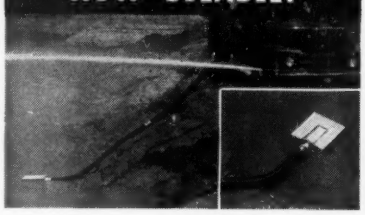
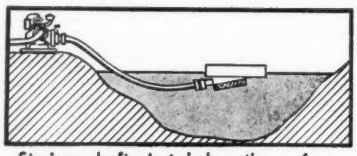
ANY WATER SOURCE NOW USEABLE!



The new Float Dock Strainer makes most any stream or pond useable for fighting rural fires or for filling your tanker. Float Dock will draft in deep or shallow water — off the bottom and drafting always the cleanest water with never a whirlpool or loss of suction at any time. Saves wear on your pump, too.



Strainer drafts just below the surface and down to the last few inches.

WRITE your distributor or manufacturer for brochure and prices. Specify hose size.

Manufactured Only By

FOL-DA-TANK COMPANY
Box 361, Rock Island, Illinois

BODY-GUARD

BUNKER SUITS

FOR COMFORT & PROTECTION

WE ARE DISTRIBUTORS FOR

SIREN BOOTS

We have been supplying **FIREMEN'S CLOTHING** for over 36 years.

Any fireman can have a catalog by writing—

BODY-GUARD MANUFACTURING CO.
ST. JOSEPH - - - - MISSOURI

Appointments and Promotions

Athur E. Miller and **Lyman E. Jordan** have been elected to the board of directors of the Scott Aviation Corp., Lan-

L. E. JORDAN A. E. MILLER

caster, N. Y. Mr. Miller has been with the company for 16 years as chief engineer and during the past five years as director of research. "Stack" Jordan has headed the industrial sales department since 1950 as general sales manager.

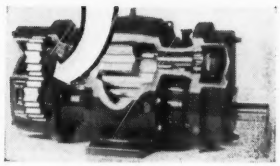
J. A. MacIntire, Jr., has been promoted to general sales manager, Republic Rubber Division, Lee Rubber & Tire Cor-

poration. He will fill the office made vacant by the recent death of C. R. Conklin. He has been serving as manager of wire braid hose sales.

Randolph H. Jackson has been appointed vice president in charge of sales for the Boston Woven Hose and Rubber

Division, American Biltrite Rubber Co., Cambridge, Mass. He has been a director of sales for the past three years.

A. H. Sherwood, 506 West Park Avenue, Round Lake, Ill., and **Melvin C. Schmidtke,** 5036 South Lotus Avenue, Chicago 38, Ill., have been appointed exclusive dealers by Howe Fire Appara-



When fighting on the run, chiefs want a booster pump with guts!

That is why so many chiefs always specify

LEONARD *Rotary Gear* PUMP

THE self-priming pump that can run continuously with NO maintenance . . .

THE versatile pump that really DOES reduce your Department costs!

POTTER-HORN INC.
936 Statler Bldg., Boston 16, Mass.

"good fire hose deserves good care"

KEEP IT CLEAN, KEEP IT SAFE, KEEP IT LONGER! with BI-KLEEN

BI-LATERAL® FIRE HOSE COMPANY

BI-KLEEN, the ideal cleaning and protection agent for all cotton, rubber-lined hose, also does an amazingly fast job of cleaning oil, dirt and grease from floors—even rough, cement floors.

FIRE HOSE RACKS and truck beds need a good cleaning compound, too—and BI-KLEEN does a perfect job—keeps equipment "inspection clean" *all* the time with *less scrubbing!*

SAFE, NON-TOXIC BI-KLEEN will save hose, save work, save money. Sold by the makers of the finest fire hose in the world—Bi-Lateral, flat-folding, non-creasing fire hose.

BI-LATERAL FIRE HOSE COMPANY
20 No. Wacker Drive • Chicago 6, Illinois

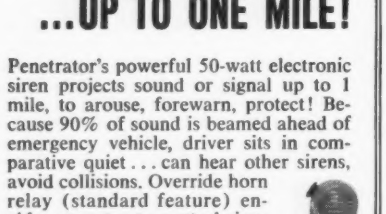
NEW! PENETRATOR®

Electronic Siren

P.A. unit and radio amplifier

BEAMS SOUND AHEAD ...UP TO ONE MILE!

Penetrator's powerful 50-watt electronic siren projects sound or signal up to 1 mile, to arouse, forewarn, protect! Because 90% of sound is beamed ahead of emergency vehicle, driver sits in comparative quiet . . . can hear other sirens, avoid collisions. Override horn relay (standard feature) enables operator to control siren pitch as desired at high, medium, low and off.



On scene, Penetrator serves as an authoritative high fidelity public address system for controlling crowds, riots, parades, directing fire fighting, rescues, civil defense. Penetrator also ties into vehicle's 2-way radio to amplify incoming messages.

Compact control box—only 4 15/16" wide, 3 3/16" high, weight 12 oz.—is easily mounted anywhere handy on dashboard. Air-cooled, 9-transistor amplifier fits concealed between radiator and grill or below dashboard. Penetrator operates on extremely low battery drain of 4 amps. All components are electronic, vibration-free, weatherproof . . . guaranteed 90 days!

Write today for specifications, prices!

Fyr-Fyter

a product of **THE FYR-FYTER COMPANY**
ATLANTIC COAST REGIONAL OFFICE
P. O. Box 750, Newark 1, New Jersey
CENTRAL STATES REGIONAL OFFICE
221 Crane St., Dayton 2, Ohio
PACIFIC COAST REGIONAL OFFICE
132-140 Hawthorne St., San Francisco 7, Calif.
Distributors and Branches in principal cities

tus Co., 1402 West 22nd Street, Anderson, Ind. Both men will assist District Service Manager M. E. Rhoades, Bartlett, Ill., in sales promotion in southern Wisconsin and Northern Illinois. At the same time, the company appointed **L. W. Walters,** P. O. Box 91, Osceola, Ark., as a dealer in Arkansas, assisting District Sales Manager N. E. Schultz, Memphis, Tenn.

Norris Spencer, General Fire Ext. Co., Denver, Colo., will serve as exclusive Howe distributor in Colorado. **Dan Tuttle,** National Supply Co., 2606 Seward Highway, Spenard, Alaska, will be exclusive Howe distributor in that state. **Martin Anderson,** 10 West William Street, Bay Shore, N. Y., has been appointed exclusive Howe distributor for Long Island.

Globe Aluminized Clothing

Globe Manufacturing Co., Pittsfield, Mass., is now offering fire fighters protective clothing made from 3M Type 82 aluminized rayon fabric. It is claimed the fabric is extremely flexible with high

stress and tear strength and will reflect 90 per cent of radiant heat. The clothing is available in lightweight, regular or all-temp models with regular hardware or in Air Force heat-protective-type cover coat and pants designed to wear over turn-out suits.

Fluorescent Spray Paints

Six dazzling fluorescent colors, in ready-to-use aerosol dispensers are being introduced by Krylon, Inc., Ford and Washington Streets, Norristown, Pa., manufacturer of spray enamels and protective coatings. They are said to be useful on fire and emergency vehicles, fire hydrants and fire alarm boxes. Colors include sunset gold, lemon yellow, red orange, yellow orange, cerise and green.

Waukesha Sales Up

At the annual meeting of the stockholders of the Waukesha Motor Company held on October 20 in Waukesha, Wis., President J. E. DeLong reported that sales for the past year totaled $36,135,914 as against sales of $32,502,872 for the previous year. He reported that earnings were $2,312,161 as compared to $1,778,-162 in 1958.

Lightweight Smoke Ejector

United States Motor Corp., Oshkosh, Wis., has introduced two new portable blowers which may be used to supply fresh air to an interior or to eject smoke and fumes. One model is driven by its own integral gasoline engine. The other is equipped with an a.c.-d.c. electric engine and may be powered by a 115-volt portable generator. The latter is said to weigh 29 pounds. Both units are rated at 800 cfm and an 8-inch suction-discharge hose, 15 feet long, is optional.

Publications Available

Walter Kidde & Co., Inc., Main Street, Belleville, N. J., has issued a four-page brochure, No. P-48, describing the use and recharge of its line of dry chemical fire extinguishers.

Schauer Manufacturing Corp., 4500 Alpine Avenue, Cincinnati 42,, Ohio, has published Bulletin No. 2485 which describes and illustrates the company's new line of compact chargers for 6 and 12-volt batteries.

Acme Protection Equipment Co., 1201 Kalamazoo Street, South Haven, Mich., has published a six-page circular "How to Select a Gas Mask," which gives tips on the selection, care and use of a mask.

Pyrotronics, a division of Baker Industries, Inc., P. O. Box 390, Newark 1, N. J., has published an eight-page research report "Spontaneous Combustion and Its Early Detection." It discusses tests made with linseed oil and organic wastes and the operation of the ionization chamber detector.

Universal Motor Company, 418 Universal Drive, Oshkosh, Wis., has issued a new eight-page price list, SE-17, covering its line of gasoline and diesel electric plants. Accessories and miscellaneous equipment are included.

Diamond T Motor Truck Co., 4401 West 26th Street, Chicago 23, Ill., has published illustrated literature covering complete specifications of the company's three new gasoline-powered models, 534, 634 and 734R, with chassis available in four-wheel and six-wheel design and GVW ratings up to 46,000 pounds.

The Manufacturing Chemists' Association, Inc., 1825 Connecticut Avenue, N. W., Washington 9, D. C., has published a revised edition of Manual Sheet TC-6 which details recommended practices for unloading liquid phenol (carbolic acid) from tank cars. The booklet is available at 40 cents per copy. □□

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

EDITORIAL INDEX FOR 1959

Volume 112, January to December 1959 Inclusive

ADMINISTRATION

Fire Admin. Courses Available 997
Fire Library 194
How History Can Help The Fire Service 941
Los Angeles Boosts Chief's Salary ... 1141
Los Angeles Co. Revamps Top Command Set-Up 884
New York Disbands Radiological Unit 222
New York Revamps Responses With Saving to Taxpayers 809
Prevention Pays Off in Apparatus Maintenance 1133
Public Relations and You 38
Role of Chem. Laboratories in the Fire Service 676
Salvage Pays Its Way 1135
San Francisco Group Insurance Plan .. 1054
Trends in Fire Prom. Examinations ... 548

AIRCRAFT

Air-Crash Training 131
Conn. Firemen to Get Aircraft Train. . 419
Conn. Teaches Crash Fire Fight. 744
Explosion Kills Pilot Trapped in Plane 157
Foam Controls Idlewild Plane Crash .. 113
Los Angeles Adds to Airport Fire Prot. 311
Navy Aircraft Fire Fight. Rescue Manual 61
Protecting New York's Metropolitan Airports 542
Seattle Port Body Takes Over Crash Unit 885

AMONG THE BUFFS

60, 135, 221, 320, 401, 480, 572, 748, 873, 986, 1060, 1140

ANNUAL REPORTS

Alameda, Calif. 1002
Atlantic City, N. J. 882
Bakersfield, Calif. 882
Baltimore Co., Md. 825
Cedar Rapids, Iowa 881
Charlotte, N. C. 825
Chicago, Ill. 1001
Colorado Springs, Colo. 881
Columbus, Ohio 1001
Davenport, Iowa 882
Dominion of Canada 1002
Everett, Wash. 825
Fort Worth, Tex. 882
Greenport, N. Y., Rescue Squad 882
Greenwich, Conn. 1002
Hamilton, Ohio 882
Hampton, Va. 825
Hayward, Calif. 881
Honolulu, Hawaii 1001
Illinois University 155
Jackson, Miss. 155
Knoxville, Tenn. 825
Lima, Ohio 1001
Los Angeles County, Calif. 882
Lubbock, Tex. 881
Martinsville, Va. 882
Melbourne, Australia 1002
Milwaukee, Wis. 825
Montgomery Co., Md. 1002
Nairobi, Kenya Colony, Africa 882
New Haven, Conn. 1001
New York, N. Y. 868
Oakland, Calif. 882
Ontario, Canada 1002
Painesville, Ohio 882
Park Forest, Ill. 1002
Rochester, N. Y. 1002
Rockford, Ill. 881
Salt Lake City, Utah 825
Singapore, Singapore Colony 1002
Springfield, Ohio 881
Waterloo, Iowa 825
West Milwaukee, Wis. 825
West Plains, Mo. 882
Wichita, Kans. 825

APPARATUS

Chicago Proves Value of Aerial Platforms for Fire Fight. 657
Copper and Brass—The Chemical Engine Era 681
Fireboat "City of Portland" Protects Maine Harbor 548
Pumper for Glenwood Landing, N. Y. 208
Station Wagon Assumes New Stature! 673

APPARATUS ACCIDENTS

Haledon, N. J., Appar. Damaged as Bus Crashes Into Firehouse 797
New Haven, Conn., Firemen Killed in Collision 208
Syracuse, N. Y., Fire Fighters Killed When Pumpers Collide 732
Tampa, Fla., Aerial Righted; Continues in Use 207

APPOINTMENTS AND PROMOTIONS

Adler, J. H., Chief, Detroit, Mich. ... 65
Ahern, J. J., Director of Security, General Motors 67
Allaways, A., Chief, Sinop, Turkey U.S.A.F.B. 240
Allen, P. B., Asst. Chief, San Diego, Calif. 758
Anderson, G. C., Supv. Engr., NBFU .. 151
Bell, W., Chief, New Rochelle, N. Y. . 978
Benton, R., Chief, Lincoln, Nebr. 1077
Billings, J., Chief, Oceanside, Calif. .. 327
Bing, P., Chief, Sandusky, Ohio 758
Blaisdell, W. K., Chief, Honolulu, Hawaii 326
Browne, J. D., Chief, Albany, Calif. .. 324
Brunton, G. E., Asst. Chief, Los Angeles Co. F. D. 325
Bulger, G. A., Chief, Rumford, Me. .. 758
Burrell, G. J., Field Rep., N.Y.S. Bur. of Accident Prev. 411
Carl, K. J., Asst. Chief, Engr., NBFU .. 151
Cox, E. T., Co-Chairman, FDIC 67
Cummings, A., Dep. Chief, Colorado Springs, Colo. 1076
Daly, L. J., Chief, Detroit, Mich. 575
Dickerson, R. H., Chief, Austin, Tex. .. 758
Drayton, Al, Dir. of Pub. Relations I.A.F.C. 1166
Drumm, D. L., Asst. Chief Engr., NBFU 151
Duggan, J. J., Elected President, S.F.P.E. 575
Edmonson, L., Chief, Corvallis, Ore. .. 328
Flanagan, A., Heads Connecticut Fire Training 979
Foster, J., Chief, Minneola, Kans. ... 761
Fox, L. M., Chief, Jackson, Mich. 978
Friskie, O., Field Rep., N.Y.S. Bur. of Fire 411
Garcia, K., Chief, Union City, Calif. .. 762
Gates, H. R., Chief, El Segundo, Calif. 324
Grady, E. J., Chief, Manchester, N. H. 328
Graham, R. B., Chief, McClellan AFB, Calif. 1078
Guattery, M., Chief, Bakelite Corp. .. 65
Guthrie, L. W., Chief, Atlanta, Ga. .. 758
Haltiwanger, N. R., Chief, U. S. Naval Sta., Green Cove Springs, Fla. 1077
Hartley, B. A., Adm. Asst., NBFU ... 151
Hermanni, A. L., Chief, Lakehurst, N. J. Naval Sta. 328
Hofstad, H. M., Chief, Mt. Vernon, Wash. 328
Holmes, G. C., Chief, Monroe, Mich. . 762
Ice, D., Chief, Evansville, Ind. 978
Jebens, J. H., Chief Fire Prev. Engr., Borden Co. 65
Jervey, C. P., Treas., NBFU 497
Jordan, F. R., Chief, Rock Island Arsenal 978
Keenoy, M., Chief, Lansing, Mich. ... 496
Kempf, F., Joins Cook Co. Ins. Bur. .. 979
Killen, J. J., Chief, Baltimore, Md. 495
Korn, Barney, Chief, Union City, N. J. 240
LaBranche, A., Chief, Berlin, N. H. .. 325
Line, B. E., Chief, Topeka, Kans. 574
Lowe, G. F., Jr., Chief, Pueblo, Colo. . 150
Lusk, O. H., Asst. Chief, San Diego, Calif. 758
Maatman, G. L., Dir., Fire Prot. and Enging. Dept., Ill. Inst. of Tech. ... 328
McCabe, E., Chief, Milwaukee, Wis. .. 978
McLaughlin, W. M., Ohio Fire Marshal 411
Meyer, G. H., Supvr., Inland Marine, NBFU 151
Miller, H. W., Pres., NBFU 574
Mulligan, J. F., Batt. Chief, Jersey City Train. Officer 495
Myers, R., Chief, Kettering, Ohio 496
Nelson, W. C., Chief, Galesburg, Ill. . 762
New York Fire Adv. Bd. Appointments 883
Nightingale, A. W., Comm. Supt., Cincinnati, Ohio 150
Palmer, K. C., Field Rep., N.Y.S. Bur. of Fire 411
Perry, J. S., Chief, Reading, Mass. ... 883
Pooler, Roswell L., Chief, N.Y.S. Bur. of Fire 325

Inclusive Page Numbers for Each Issue

Issue	Page
January	1– 76
February	77– 160
March	161– 248
April	249– 336
May	337– 422
June	423– 514
July	515– 586
August	587– 828
September	829– 896
October	897–1012
November	1013–1088
December	1089–1180

Pritsky, W. William, Dir., Codes and Standards, NBFU 151
Proper, G., Dep. Dir., N.Y.S. Div. of Safety 761
Rathke, A., Chief, San Antonio, Tex. . 150
Redick, R., Chief, Skokie, Ill. 978
Renfro, B. F., Batt. Chief, Los Angeles, Calif. 151
Reynolds, O., Chief, Wheaton, Ill. ... 66
Ryan, D. M., Named to G-E Post ... 1166
Robbins, E., Chief, Heads Vt. Train. .. 497
Samsell, J. P., Asst. State Fire Marshal, W. Va. 1077
Sawyer, H., Asst. Chief, Los Angeles, Calif. 761
Sevier, O. A., Chief, Baton Rouge, La. 1166
Sherry, E. A., Chief, Richmond, Va. .. 324
Snyder, G., Chief, Beloit, Kans. 761
Stillman, T. G., Exec. Asst., N.Y.S. Div. of Safety 411
Stuerwald, J. E., Arson Supvr., NBFU . 151
Sweitzer, G. E., Chief Morgantown, W. Va. 1166
Thomas, H. G., Chief
Joins NBFU 324
Re-elected President, NFPA 574
Tyler, R., Chief, Monticello, Ind. 325
Wask, S. A., Asst. Fire Marshal, Automatic Electric Co. 885
Whippo, T., Asst. Chief, Los Angeles, Calif. 761
White, J. R., Chief, Pontiac, Mich. ... 495
Williams, L. L., Colorado Springs F. D. Physician 495
Winkley, E., Chief Dep. Fire Marshal, State of Oregon 1076
Young, E. A., Field Rep., N.Y.S. Bur. of Fire 411

APPAREL

Correct Use of Aluminized Prot. Clothing 1053

ARSON

Arson Investigation Correspondence Course 419
California Arson Course 885
Phosphorus Taken From High School Lab. 229
Sentenced to Life Term for Setting Fatal Fire 1167

ASSOCIATION NEWS

Eastern Assn. of Fire Chiefs Re-elects MacDonald 750
FDIC Celebrates Silver Anniversary at Memphis 288
Indiana Instructors Elect Officers 207
International Assn. of Fire Chiefs
Convention Program 719
Directors Meet 118
Grand Rapids Conf. Reports 934
Grand Rapids Exhibit Space Sold Out 492
Officers and Directors 716
Prelim. Conf. Report 867
International Rescue and First Aid. Assn. Officers 305
Master Mechanics Meet 317
Michigan Fire Inspectors Elect New Officers 208
Missouri Chiefs Organize 1145
Missouri Valley Fire Chiefs Elect Officers 804
Montana State Fire Chiefs Assn.
Elects Officers 874
To Sponsor Inspections 505
Montana Vols. to Meet at Sydney ... 411
New England Assn. of Fire Chiefs
Foss Heads 744
To meet 409
New York State Chiefs Elect Officers . 868
Oregon Chiefs Meet 719
Pacific Coast Conference Spirited Affair 732
Southeastern Assn. of Fire Chiefs Elects Cox 732
Suffolk County Holds Annual Field Conference 1165

ATOMIC ENERGY

Baltimore Trains for Radiological Hazards 1129
Bridgeport Adds Radiological Training 417
Fire Hazards of Atomic Reactors 284
Hazards of Carbon-14 153
New York Disbands Radiological Unit. 222
Radiation Hazards in Fire Fighting ... 110

BOOK SHELF

Brave Men and Bright Machines 999
Fire Research and Fire Prevention 999
Home Inspections by Fire Departments 999
Property Insurance Fact Book 999
Roof Venting of Burning Enclosures .. 999
The Fireman's Textbook 999
The Mayor and the Fire Chief 999
Rocket Experiment Safety 999

BUFFS

Among the Buffs .. 60, 135, 221, 320, 401, 480, 572, 748, 873, 986, 1060, 1140
What Can A Buff Club Do? 202

CHEMICALS

Connecticut Chem. Plt. Fire and Expl.. 868
Emulsify Gasoline—Don't Push It Away 472
Fire and Expl. in Metals 376, 461
Fire Hazards of Plastics 290
Fumes at Plastic Plant Accident Overcome Six 154
How Plastics Are Made 204
Let's Identify Our Hazardous Materials 42
Roseburg Propane Explosion 930, 1049
Under Fire Conditions Will Plastics Emit Toxic Fumes 380

CIVIL DEFENSE

Chicago Buffs Operate CD Fire and Rescue Service 705
C. D. Pumpers Play Important Role in California Disaster Operations ... 710
Disaster Film Announced 323
Office of Civil Defense Mobilization Offers CD and Allied Courses 206
Revises Radio Equipment Regulations 991

COMING EVENTS

71, 155, 236, 313, 405, 506
579, 776, 890, 998, 1151

COMMUNICATIONS

Fairfield County, Conn., Sets Up New Radio Network 867
Glasgow Keeps Its Street Fire Alarm Sys. 207
Meeting the Split Channel Standards . 116
Phone System Alerts Garden City Vols. 199
OCDM Revises Radio Equip. Regulations 991
Provide Positive Protection With a Modern Coded Fire Alarm System 706
Telephone Breaks the Sound Barrier in Connecticut 720
Women Apply for Philadelphia Dispatcher Positions 995

COVER PHOTOGRAPHS

B-25 Bombs Brush Fire 249
Brinkley, Ark., Butane Explosion 337
Chicago, Ill., School Fire 1
Detroit, Mich., 5-Alarm Fire 587
Frederick, Md. (Independent Hose Co.) Christmas Decorations 1089
L. A. County Apparatus Destroyed in Forest Fire 161
Louisville, Ky., Home Inspections 829
New York Fireman Dives Down Aerial to Safety 515
New York Firemen Employ Ladder to Force Door 423
Roseburg, Ore., Engine No. 5 Destroyed by Blast 897
St. Louis, Mo., Gas Scrubber Fire 1013
Scranton, Pa., Davidlow Bldg. Fire ... 77

EDITORIALS

Act Now For School Fire Safety 107
Are Sprinklers the Answer to School Fire Safety? 1040
Fire Prevention and Duty to the Public. 853
Fire Research A Necessity 276
Fire Safety and the Three "E's" 186
Industrial Fire Losses—Everybody's Business 369
It Can Happen Anywhere 929
No More Monuments to School Children 29
Salute to "Look"! 456
Saving Face or Safeguarding Children. 1121
School Safety Progress 540
Thoughts for the Future 656

EXTINGUISHING AGENTS

Navy Announces New Extinguisher Chemical 732

FALSE ALARMS

52, 121, 210, 300, 390, 482
558, 746, 870, 976, 1058, 1138

FIRE COLLEGES

71, 154, 237, 312, 406, 507
579, 776, 890, 998, 1151

FIRE DEPARTMENT NEWS

Argentine Fire Fighters Due 314
Chicago Water System Improvements Slated 203
Eastern Underwriters Sponsor Scholarships 245
Firemen Hold Religious Services at Lockbourne AFB 571
Full-Dress Fire Fighting 878
Grand Rapids Fire Department 714
Greenwich Extends Insurance Protection 509
Hartford Celebrates 95th Anniversary. 1151
"Key" Solution to a Fire Prot. Problem 553
Miami Firemen on AAU Skindiving Team 779
NBFU Will Not Expand Services 498
New York Disbands Radiological Unit. 222
Norwalk, Conn., Fire Co. 100 Years Old 153
Nyack, N. Y., Fire Co. Marks 125th Anniversary 1008
Scare at Windsor Castle 481
Signal Hill Joins L. A. County 744
Women Apply for Philadelphia , Dispatcher Positions 995

FIRE DETECTION AND EXTINGUISHMENT

Fire Detection at Colonial Williamsburg 109

FIRE LOSSES

August 987
December, 1958 233
February 303
January 207
June 796
July 874
March 415
Monthly 54, 144, 241, 308, 398, 489
569, 75, 875, 992, 1061, 1142
May 756
November, 1958 148
October 1165
September 1135

FIRE PREVENTION

Canadian Underwriters Issue Fire Protection Standards 51
Chicago Jury Recommendations 134
Connecticut Industrial Fire Safety Commission 1145
Contest Grand Award Winners Announced 206

Fireproof Paper? 414
Fire-Retarded Wood 991
How Effective is Fire-Retardant Paint?. 1050
Indianapolis "500" Drivers Wear Flame-Proofed Uniforms 505
Junior Fire Marshals 865
Let's Identify Hazardous Materials .. 42
Let's Protect Our American Heritage . 108
Louisville Home Fire Inspections Pay Off 862
Milwaukee Fire Prev. Plaques Awarded 317
NBFU Issues Two Fire Prevention Films. 1070
New York Holds Fire Prevention Conference 1135
Paine AFB Wins Fire Contest 1141
Paterson Adopts New Fire Code 1161
Safety Drive Pays Off 148
Tighten Fire Regulations in Chicago Catholic Schools 136
Trenton Enlists Citizens' Committee to Prevent Fires 857
What Can We Do About Christmas Hazards? 1047
What's the Best Way to Observe Fire Prevention Week 855

FIRE REPORTS

Bradford, Pa., Fatal Anesthetic Blast .. 1078
California (Southern), Brush Fires ... 188
Chicago, Ill., Our Lady of the Angels School Fire 30
Chicago, Ill., Coroner's Jury Report on School Fire 31
Cincinnati, Ohio, Simultaneous Fires . 206
Detroit, Mich., Packard Motor Co. Plant Fire 378
Elizabeth, N. J., Gasoline Spill Fire .. 546
Festus, Mo., Lumber Yard Fire 469
Hebron, Ohio, Fire Fighter Lives Through Explosion 206
Hollywood, Calif., Laurel Canyon Fire. 940
Hollywood, Calif., LP Gas Disaster .. 119
Los Angeles, Calif., Chemical Fire Fells 44 718
L. A. Fire Captain Killed at Mutual Aid Fire 207
Montreal Chief Officer and Fireman Killed During Busiest Night 385
Montreal Fire and Explosion 37
New York Idlewild Airport Plane Crash 113
Oregon Marshal Reports on Roseburg Explosion 1049
Portland, Conn., Chemical Plant Fire and Explosion 868
Red Church, Pa., Propane Tanker Explodes 688
Roseburg, Ore., Explosion 930
St. Louis, Mo., Gas Scrubber 1052
Toledo, Ohio, Grain Elevator Fire ... 1003
Washington, D. C., Pentagon Fire ... 944
Waterbury, Conn., 2-Alarm Fire 231

FIRE STATIONS

Fire Stations Across Nation Combine Beauty and Utility 684
L. A. County Builds Mobile Station ... 713

FIRST AID AND RESCUE

Buffs Operate CD Fire and Rescue Service 705
Crowd Argues While Boy Dies 800
Evacuating Handicapped School Children 861
How Baltimore Advanced Mouth-to-Mouth Resuscitation 464
Ohio Teachers to Learn Fire Rescue Methods 238
Sylvania Hosts Rescue Course for Firemen 229
Vaccine for Burns May Be Possible ... 713
Vols. Provide Salvage and Rescue Service 712

FOREIGN

Ontario Marshal Visits Rome 151

FORESTRY

Aerial Armada Fights Giant Angeles Brush Fire 1126
Brush Fires Sear Southern California .. 188
Cyclonic Fire Destroys 38 Homes in Hollywood's Laurel Canyon Area .. 940
Fighting Natural Cover Fires 192
Infrared Devices May Fight Forest Fires 508
Mud for Forest Fires? 408
National Fire Fighting Air Corps Urged 305
Seaplane Attack on Forest Fires 554
Sentenced for Starting California Forest Fire 509
Use of Aircraft in Forest Fire Control .. 280

HISTORICAL

American LaFrance History Parallels Growth of the Fire Service 946
Chemical Engine Addition 1159
Copper and Brass—The Chemical Engine Era 681
How History Can Help the Fire Service. 941
Let's Protect Our American Heritage .. 108

HONORS AND AWARDS

Ailes, J. W., Rear Admiral, USN, Hon. L. A. Chief 764
Almgren Family Honored 240
Bridgeport Fireman Awarded Medal for Heroism 152
David, G., Chief, N. Y., Hon. Member, Third Alarm Assn. 66
Falconio, H., Jr., Chief, Westville, Ill., Hon. Mention, G-E Public Service Award 67
Fire Chief's Son Wins Natl. Scholarship 1078
Foote, C., Chief, Dobbs Ferry, N. Y., Honored by G-E Members 766
Koltonski, Chief A. H., Honored by Rutland, Vt. 1166
Morton, Chaplain, Receives Honorary Membership in Philadelphia F. D. . 884
Philadelphia Fire Captain Wins Award 134
Strickfadden, Walter G., Chief, Honored 239
Swedish Chief Studies American Techniques 239
Wheeler, N. L., Chief, Miami, Fla., Honored by Southeastern Chiefs .. 762
Woolley, R. B., Honored by Westchester Chiefs 327

HYDRAULICS

A Further Study of Soft Suction Hose Operations 200
High-Volume Fog Nozzles Tested. 933, 1079
Removing Waste Water 1124

INDUSTRIAL FIRE PROTECTION

Automatic Electric Assists Scout Program 233
Fighting Fire on the DEW Line 1122
Ind. Fire Protection and Prevention .. 678
Ohio Plans Industrial Safety 383
Protecting An Industrial Park 370
Purdue to Hold Annual Ind. Conf. 419

INJURIES

Acid Fumes Fell 65 in New York 1009
Chief Officer and Fireman Killed During Montreal's Busiest Night 385
Driver Faces Charges in Fireman's Death 1152
East Peoria Firemen Dies in Rescue Attempt 208
Los Angeles Captain Killed at Mutual Aid Fire 207
New Haven Firemen Killed in Collision 208
New York Dep. Chief Drowns; Vols. Search for Body 1159
Salisbury Beach, Mass., Fireman Suffers Fatal Heart Attack at Fire 997
Syracuse, N. Y., Dep. Stabbed by Maniac at Fire 1007
Syracuse, N. Y., Fire Fighters Killed when Pumpers Collide 732
Tot Dies Playing With Gasoline 1167

INSPECTIONS

Louisville Home Inspections Pay Off .. 862
Who is Responsible for F. D. Insp.? (Round Table) 1072, 1146

INSURANCE

Maryland Reduces Fire Insurance Rates 744

LEGAL

Apparatus May Parade—If Town is Protected 880
Drivers Licenses Now Required in New York 997
Sentenced for Starting Forest Fire ... 509

LETTERS TO THE EDITOR

Not Portland City Limits 157

MAINTENANCE

Ignition, Heartbeat of the Gasoline Engine 40
Prevention Pays Off in Apparatus Maintenance 1133
Trends in Fire Appar. Elec. System .. 686

MANUFACTURERS' NEWS

46, 122, 213, 297, 392, 476
560, 728, 869, 972, 1056, 1136

MUTUAL AID

Foam Controls Idlewild Plane Crash .. 113
L. A. Captain Killed at Mutual Aid Fire 207

OBITUARIES

Bogan, R. A., Sr., Chief, Baton Rouge, La. 768
Brown, I. C., Chief, Gouverneur, N. Y. 409
Buckman, F. J., Chief, Binghamton, N. Y. 498
Canfield, L. B., Chief, Beverly Hills, Calif. 1080
Canning, C., Mrs., Midvale, Utah 889
Conklin, C. R., Gen. Mgr. Republic Rubber 1161
Connelley, H. S., Monsignor, Chaplain, Columbus, Ohio 1007
Connors, E., Chief, New York City ... 575
Cotter, F. X., Fire Comm., Boston, Mass. 323
Coyle, T. L., Chief, Paterson, N. J. ... 498
Crutchfield, H. W., Asst. Chief, Los Angeles Co. 245
Downey, J. A., Ex-Chief, Wallingford, Conn. 768
Doyle, J. S., Chief, Auburn, N. Y. 575
Ertle, F. J., Ex-Chief, Jersey City, N. J.. 1007
Finnegan, J. F., Chief, Richmond, Va... 245
Fleming, T. A., NBFU 1005
Foerster, F. W., Chaplain, Keansburg, N. J. 889
Fogelstrom, V. A., Ex-Chief, Watertown, Conn. 64
Funk, L. M., Ex-Chief, Dallas, Tex. ... 245
Galvin, P. V., Motorola, Inc. 1161
Greely, T. A., Special Agent N.B.F.U. . 1161
Haggard, Dr. H. W., Co-Inventor H & H Inhalator 498
Hancock, J. H., Eureka and Peter Pirsch Rep. 323
Helm, H. B., Ret. Dep. Chief, N.Y.F.D.. 64
Henrich, G. V., Ex-Chief, Athol, Mass. . 768
Jessome, L. J., Chief, Sydney Mines, Nova Scotia 245
Just, J. M. 409
Keating, E. C. 150
Keegan, J. O., Chief, Ayer, Mass. 770
Kohn, G. E. 64
Kuss, G. J., Ret. Dep. Chief, N. Y. F. D.. 1006
Lenz, C. C., Sr. 149
Lockwood, J. E., Sr., Ret. Mar., 8th Naval District 245
Logan, H., American LaFrance Rep. ... 889
Mangold, W. A., Jr., Chief, Dumont, N. J. 575
McAllister, R. J., Chief, Plymouth, Mich. 322
McKenna, G. L., Ret. Asst. Chief, N. Y. C. 1080
Mullins, G., N. Y. Fire Alarm Disp. ... 498
Niday, C. N., Ex-Chief, San Bernardino, Calif. 770
O'Hearn, J. W., Ex-Chief, Watertown, Mass. 1005
Roche, L. M., FIRE ENGINEERING 770
Royce, A. A., NBFU 150
Scott, G. T., American LaFrance Rep. . 322

Seiler, L. P., Chief, Cuyahoga Falls, Ohio 770
Spader, J. M., Former Gamewell Rep. . 149
Stephen, W. W., Former Chief, Monsanto Chemical Co. 64
Stephenson, Esther M., Stephenson Corp. 889
Strathearn, G. H., Chief, Paterson, N. J. 409
Svenson, E. J., Chief, West Windsor, N. Y. 770
Wagner, L. E., Ex-Chief, York, Pa. . . . 322
Webster, W. D., Chief, No. Queensburg, N. Y. 149
Welcher, H., Ret. Special Agent, NBFU. 245
Wischer, E. E., Chief, Milwaukee, Wis.. 768

OPERATIONS-PROCEDURES

Correct Use of Aluminized Prot. Clothing 1053
Emulsify Gasoline—Don't Push It Away! 472
Fighting Fire in Fur Storage Vaults . . . 942
Fighting Fire on the DEW Line 1122
Fighting Natural Cover Fires 192
Fight Interior Fires From Within 458
Fire Wells Supply Water to Protect Center Moriches, N. Y. 1158
How A Gasoline Spill Fire Was Fought. 546
Progress in Forcible Entry 466
Radiation Hazards in Fire Fighting . . . 110
Removing Waste Water 1124
Use of Aircraft in Forest Fire Control . . 280

PUBLIC RELATIONS

Hitch Your Mousetrap to a Cause 283
Public Relations and You 38
Public Relations—Big "D" Style 708
Rescue Work Depicted on New TV Program 321

QUESTIONS AND ANSWERS

Charcoal Hazard 223
Daily Warm-Ups 310
Deck Gun Vs. Deluge 51
Deluge Problem 1160
Drafting Hot Water 1160
Dry Chemicals and Rocket Propellants . 50
Extinguisher Hazard 581
Fire Causes 581
Fire Deaths 1079
Fire Retardant Paints 488
Fire Service Ladders Portable Vs. Ground 50
Jump Record 311
K Factor Variation 137
Ladder Safety Tips 223
Oxygen and Fire 223
Phone Alarm Systems 310
Quick Pressure Calculations 1079
Scholarship Information 488
Sprinklers and Loss of Life 137
Storing Soft Suction 311
Vertical Suction Lift 1079

RESEARCH

Does Weather Influence Urban Fires? . 938
Fire Protection in the Age of Missiles . 278
High-Volume Fog Nozzles Tested 933
National Academy of Science Will Study Fire Safety in Schools 868
Plastics—Boon or Bane 114
Plastics Fire Research 766
Water for Fog Fire Fighting 670
What Small Town Fire Chiefs Think of Fire Hose 664
What Happens When A School Burns?. 1042

RESPIRATORY PROTECTIVE EQUIPMENT

Navy Tests New Oxygen Gear 878
Respiratory Protection of New York Firemen 292, 770
Toxicity of Fire Gases 372

RETIREMENTS

Aid, D. G., Chief, U. S. Naval Sta., Glen Cove Springs, Fla. 764
Bendel, R., Chief, Decota, Calif. 766
Bligh, W. E., Resigns New York State Safety Post 1167
Bradley, H. F., Batt. Chief, Los Angeles, Calif. 151
Brady, E. J., Edit., "WNYF," New York 497
Broden, N. D., Chief, Cranston, R. I. . . 766
Butler, M. L., Chief, San Antonio, Tex.. 150
Cawker, W. J., Chief, Topeka, Kans. . . 574
Colglazier, E. G., Chief, Pueblo, Colo. . 150
Crouthamel, L. Y., Chief, Dublin, Pa. . . 324
Downs, L. E., U. S. Forest Prod. Lab. . . 1077
Eames, H. L., Chief, Reading, Mass. . . 883
Fales, C. M., Chief, N. Y. S. Bur. of Fire 325
Freedman, L. B., Chief, El Segundo, Calif. 324
Halligan, H. A., Dep. Chief, New York . 496
Hansen, H., Chief, McClellan AFB, Calif. 1078
Hisscock, G. W., Chief, Huron, Mich. . . 884
Johnson, W., Chief, Oceanside, Calif. . 152
Jones, C. S., Comm. Supt., Cincinnati, Ohio 150
Kellenburger, F., Chief, Monticello, Ind. 325
Lotz, M. H., Chief, Baltimore, Md. . . . 410
Martin, J. E., Asst. Chief, Pueblo, Colo. 150
Mercier, S. A., Chief, Rumford, Me. . . . 758
Parry, R. A., Asst. Edit., "WNYF," New York 497
Pate, H. C., Chief, Honolulu, Hawaii . . 326
Samsell, J. P., Chief, Morgantown, W. Va. 1077
Scanlon, J., Chief, New York Fire Patrol 410
Sherwood, D. B., Asst. Gen. Mgr. N.B.F.U. 1167
Stevens, J. W., NBFU 1075
Styron, C. C., Chief, Atlanta, Ga. 410
Thomas, H. G., Chief, Hartford, Conn.. 324
Vallad, R., Chief, Detroit, Mich. 65
Weintraub, A. A., Capt., New York F. D. 496
Wobbekind, Firemen W. E. & J., Retire From New York F. D. 1167
Zeltner, E. L., NBFU 979

ROCKETS

Fire Protection in the Age of Missiles . . 278
Homemade Rocket Kills Three Engineers 493
Loses Hand in Rocket Blast 1063
Sirens May Assist Rockets 811
Split-Second Fire Protection for Solid Propellants 662

ROUND TABLE

Alerting and Dispatching Fire Companies 484, 566, 786, 886, 988
Handling Gasoline Spills 226, 315, 388
Insignia of the Fire Service 68, 138
Who Is Responsible for Fire Prevention Inspections 1072, 1146

SALVAGE

Boston Patrol Disbands 419
Cincinnati Sets Up Squad to Replace Salvage Corps 750
Greenwich, Conn., Vols. Provide Salvage and Rescue Service 712
New Haven Firemen Star in NBFU Salvage Film 384

SHORT CUTS AND GADGETS

Applying Power to a Back-Breaking Job 209
Auburn, Mass., Emergency Unit 478
Fire Safety Pointers in Spring Clean-Up Letter 386
"Floor Oven" Removes Asphalt Tile Quickly 386
Hydrant Valves Speed Suction Hookup. 557
Improvised Sprinkler Clamp 120
Just Dial F-I-R-E 209
Ladder Intercom System 120
New Use for Coffee 120
Omaha Runs Billboard Fire Prevention Campaign 478
Peg Board Keeps Rescue Tools Orderly 725
Rockville Chimney Cleaning Device . . . 209
Running Board Hose Box for 1½-Inch Preconnected Line 386
Telephone Tips to Public 120
Test Stand Measures High-Volume Fog Nozzle Flows 478
Tips to Backyard Chefs 478
Trading Stamps Help Pay for Vamps' Uniforms 120

TRAINING

Add. Info. on Crash Fire Fighting 323
Aircraft Fire Fighting Rescue Manual . 61
Air-Crash Training 131
Arson Investigating Corres. Course . . . 419
Bridgeport Adds Radiological Training. 417
California Arson Course 885
Conn. Firemen to Get Aircraft Training. 419
Baltimore Trains for Radiological Hazards 1129
Conn. Teaches Crash Fire Fighting . . . 744
FDIC Celebrates Silver Anniversary . . 288
Fire Administration Courses Available . 997
Illinois U. Trains 7,046 Firemen 155
Indiana Instructors Elect Officers 207
Junior Colleges Offer Credit Courses to San Diego County Firemen 1131
LP-Gas Film Ready 998
New Memphis Training Center 667
N. Y. State Holds 11th Annual Fire Instructors Conference 1144
Ohio Teachers to Learn Fire Rescue Methods. 238
Personnel Training Advances Hospital Fire Safety 858
Protecting Pupils Outside the Classroom 551
Sylvania Hosts Rescue Course for Firemen 229
Training Films 137
Training Position Open 316

WATCH DESK

62, 142, 234, 318, 403, 564, 812, 1150

WATER SUPPLIES

A Further Study of Soft Suction Hose Operations 200
Chicago Water System Improvements Slated 203
Fire Wells Supply Water to Protect Center Moriches, N. Y. 1158

WORLD-WIDE FIRE NEWS

58, 224, 494, 816, 891, 994

AUTHORS

Baird, Donal M.
Fire and Explosion Rock Montreal . . 31
Chief Officer and Fireman Killed During Montreal's Busiest Night . . . 385
Beers, David M.
Public Relations and You 38
Bruno, Hal
Chicago Proves Value of Aerial Platform for Fire Fighting 657
Burtner, Carrol E.
Split-Second Protection for Solid Propellants 662
Callahan, Neal
Chicago Proves Value of Aerial Platforms for Fire Fighting 657
Clark, William E.
Fight Interior Fires From Within . . 458
Courtois, Vincent
Lumber Yard Fire Threatens Entire City 469
Crowley, Charles T.
Evacuating Handicapped School Children 861
Curtin, John L.
Correct Use of Aluminized Protective Clothing 1053
DeGaeta, Paul F.
Fire and Explosion in Metals . . 376, 461
Deignan, Edward F., Chief
How A Gasoline Spill Fire Was Fought 546
Dektar, Cliff
Aerial Armada Fights Giant Angeles Brush Fire 1126
Brush Fires Sear Southern California 188
C. D. Pumpers Play Important Role in Calif. Disaster Operations 710
Cyclonic Fire Destroys 38 Homes in Hollywood's Laurel Canyon Area. 940
Possible LP Gas Disaster Averted on Hollywood Freeway 119

Dick, Robert C.
Protecting Pupils Outside the Classroom 551
Ditzel, Paul C.
Among the Buffs..60, 135, 221, 320, 401, 480, 572, 748, 873, 986, 1060, 1140
What Can A Buff Club Do? 202
Drayton, Al
New Haven Firemen Star in NBFU Salvage Film 384
Duggan, James J.
Let's Identify Our Hazardous Materials 42
Dunne, John B.
Respiratory Protection of New York Firemen 292
Dwyer, Edward W.
How Effective Is Fire Retardant Paint 1051
Eggleston, Lester A.
Fire Protection in the Age of Missiles 278
Fisk, Chief Harold C.
An Ounce of Prevention Pays Off in Apparatus Maintenance 1133
Flanigin, W. Ben.
Provide Positive Protection With a Modern Coded Fire Alarm System 706
Futch, Herschel L.
Public Relations—"Big D" Style .. 708
Gail, Richard J.
Ignition: Heartbeat of the Gasoline Engine 40
Gardner, William H.
Salvage Pays Its Way 1135
Gunn, Ashley
Grain Elevator Gives Toledo A Hot Fight 1003
Hanifin, Frank
Fire Hazards of Plastics 290
How Plastics Are Made 204
Personnel Training Advances Hospital Fire Safety 858
Plastics—Boon or Bane 114
The Role of Chemical Laboratories in the Fire Service 676
Under Fire Conditions Will Plastics Emit Toxic Fumes 380
What Can We Do About Christmas Hazards? 1047
Harrington, David L.
Hitch Your Mousetrap to a Cause .. 283
Havens, Meredith
Trenton Enlists Citizens' Committee to Prevent Fires 857
Heath, Richard L.
How History Can Help the Fire Service 941
Jebens, John H.
Ind. Fire Prot. and Prev. 678
"Key" Solution to a Fire Prot. Problem 553
Let's Protect Our American Heritage 108
Karg, Otto F.
Fire Hazards of Atomic Reactors ... 284
Lincke, Jack
What Happens When a School Burns 1042
Lockwood, Joseph E.
Radiation Hazards in Fire Fighting 110
McLaughlin, Vincent J., Ph. D.
New Trends in Fire Promotion Examinations 548
Meek, Clarence E.
Copper and Brass—The Chemical Engine Era 681
The Fire Library 194
Mendelssohn, Paxton
Oddity in Detroit 378
Meyers, Adrian J.
Grand Rapids Fire Department 714
Nelson, Floyd W.
Water for Fog Fire Fighting 670
Nolan, George B.
"Handling a Group Insurance Plan" 1054
O'Brien, D. M. (See Editorials)
Meeting the Split Channel Standards 116
Trends in Fire Appar. Elec. Systems. 686
Removing Waste Water 1124
O'Connor, William A.
Protecting New York's Metropolitan Airports 542
Olsen, Robert, Jr.
Fighting Fire With Firearms 1052
Patterson, Edward
Fire Hazards of Atomic Reactors ... 284
Petersen, Roy C
Protecting New York's Metropolitan Airports 542
Petty, Clarence
Seaplane Attack on Forest Fires ... 554
Pirsko, Arthur R.
Does Weather Influence Urban Fires? 938
Quinn, Robert J.
Tragedy in Chicago 30
Rose, Philip F.
Emulsify Gasoline — Don't Push It Away 472
Royer, Keith
Water for Fog Fire Fighting 670
Ryan, Thomas
A Further Study of Soft Suction Hose Operations 200
Sestric, Joseph P.
Fighting Fire With Firearms 1052
Shuart, Les
Protecting An Industrial Park 370
Sommers, Harry J., Chief
Fighting Fire in Fur Storage Vaults. 942
Stillman, Timothy G.
Fighting Natural Cover Fires 192
Sylvia, Richard P.
Telephone Breaks the Sound Barrier in Conn. 720
Tammany, Joseph W.
Volunteers Provide Salvage and Rescue Service to Community 712
Walker, Hugh
American LaFrance History Parallels Growth of the Fire Service 946
Weintraub, Arnold A.
Fire and Explosion in Metals .. 376, 461
Williams, Lester L., Dr.
Toxicity of Fire Gases 372
Wohlfeld, Sidney
Fighting Fire on the DEW Line 1122
Woolley, Roi B.
Junior Colleges Offer Credit Courses to San Diego County Firemen .. 1131
Progress in Forcible Entry 466
Roseburg Explosion Wipes Out Four-Block Area 930
The Station Wagon Assumes New Stature 673
Use of Aircraft in Forest Fire Control 280
Youngs, George S.
Seaplane Attack on Forest Fires ... 554

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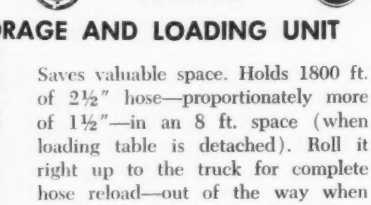

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ADVERTISING INDEX

FIRE ENGINEERING

DECEMBER, 1959

	Page
Acme Protection Equipment Co.	1152
Akron Brass Mfg. Co., Inc.	1137
American District Telegraph Co.	1110
American Fire Apparatus Co.	1101
American LaFrance Corp.	1109; 1111
Ansul Chemical Co.	1117
Atlas Safety Equipment Co., Inc.	1164
Bar-Way Mfg. Co.	1161
Bean Div., John; Food Machinery & Chemical Corp.	1107
Bi-Lateral Fire Hose Co.	1171
Blackhawk Automotive Division	Back Cover
Blackinton & Co., Inc., V. H.	1153
Boardman Co.	1096
Body-Guard Mfg. Co.	1171
Braxmar Co., Inc., C. G.	1158
Cairns & Bro., Inc.	1155
Champion Sprayer Co.	1152
Circul-Air Corp.	1178
Delehanty Correspondence School	1166
Dietz Co., R. E.	1143
Duo-Safety Ladder Corp.	1119
DuPont de Nemours & Co., E. I.	1102–1103
Elkhart Brass Mfg. Co., Inc.	1113
Eureka Fire Hose; Div. of U. S. Rubber Co.	1139
Everson-Ross	1169
Fabric Fire Hose Co.	1093
Fairbanks, Morse & Co.	1160
Federal Sign & Signal Corp.	1091
Fol-Da-Tank Co.	1171
Fyrepel Products Inc.	1169
Fyr-Fyter Co.	1115; 1172
Gamewell Co.	1120
Globe Mfg. Co.	1165
Goodrich Industrial Products Co., B. F.	1095
Greenberg's Sons, M.	1144
Hale Fire Pump Co.	1157
Halprin Supply Co.	1161
Handford Brown Co., Inc.	1168
Hannay & Son, Inc., Clifford B.	1140
Harron Labs	1167
Hercules Motors Corp.	1094
Hobby Enterprises, Inc., Electronic Div.	1154
Howe Fire Apparatus Co.	1142; 1146
International Harvester Co.	1098–1099
Janesville Apparel Co.	1167
Leece-Neville Co.	1150–1151
Mack Fire Apparatus	1114
Maxim Motor Co.	Inside Front Cover
Memco Aerial Ladder Co.	1163
Midwestern Safety Mfg. Co.	1104
Minnesota Mining & Mfg. Co.	1097
Morning Pride Mfg. Co.	1169
Morysville Body Works, Inc.	1162
Motorola Communications & Electronics, Inc.	1108
Mountain States Equipment Co.	1169
Mueller Co.	1165
Natale Machine & Tool Co.	1167
National Foam System, Inc.	1145
Oberdorfer Foundries, Inc.	1154
Onan & Sons, Inc., D. W.	1148
Pacific Reflex Signs	1143
Pirsch & Sons Co., Peter	Inside Back Cover
Porter, Inc., H. K.	1156
Potter-Horn, Inc.	1171
Powhatan Brass & Iron Works	1100
Russell Uniform Co.	1166
Scott Aviation Corp.	1141
Seagrave Corp.	1105
Smith & Co., D. B.	1149
Stephenson Corp.	1163
Sterling Siren Fire Alarm Co., Inc.	1160
Super Vacuum Mfg. Co., Inc.	1147
Thermoid Division, H. K. Porter Co., Inc.	1106
Valley Fire Truck Co.	1159
Waterous Company	1118
Waukesha Motor Co.	1112

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